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May 1997

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NEXT
GENERATION



Ten years at the top of the development heap. The one third-party developer that everyone — from Sony to Nintendo to Sega — wants on the team. Games that have launched entire game systems and ushered in new technologies. And the best license in the world. Ever.

As the new *Star Wars* movie looms large, **Next Generation** is invited backstage at LucasArts to bring you an in-depth report on the *Episode I* games, the talent at the company, and the unflinching vision of its president, Jack Sorensen. The adventure begins on page 51.

The rock-solid staying power of LucasArts must seem like a distant dream for John Romero's Ion Storm right now. With well-publicized financial nightmares and development hell threatening to overshadow all else, **Next Generation** cuts through the hype to bring you the shocking truth: The company may not be solid, but the games rock.

And speaking of rock, Take 2 Interactive has a new console division. Rockstar Games is out to make some noise with an impressive lineup of games for 1999. You can party with the hip new face of videogames on page 46. Just don't mention the word "geek"....

What do all these developers have in common? Representatives from each were in Tokyo March 2nd for Sony's long-anticipated unveiling of PlayStation 2. We were there too, of course. The in-depth report starts on page 8, and the coverage will only intensify in the issues to come.

Welcome to **Next Generation**. This battlestation is fully operational.



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Ken Slater
8:07 a.m.
April 9, 1999
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Next Generation shares editorial (and editorial) with the U.K.-based magazine EDGE. Unsolicited manuscripts cannot be returned or acknowledged. Letters may be edited for space, clarity, or so we like 'em cool. Are we making you sick? We're sorry. It's just that we're not the ones who get sick from muppets/nerdy things from *The Phantom Menace*. We think we smell an Ewok. Happy 30th birthday Jon Snyder. Jeff would like to point out that, in fact, he's never been to Japan.



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Thanks for joining us. Next Generation also has passion for changing the test that the marketing people give us if it gets in the way of a passion that we usually put funny test in. Heck, sometimes it's all that keeps us going. See above this box for more funny little test.

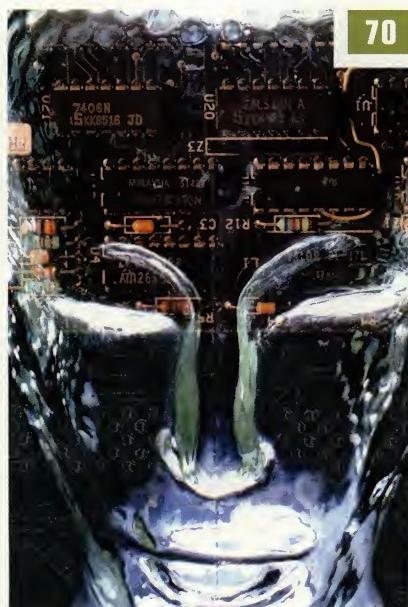
NEXT GENERATION



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EPISODE I: THE GAMES

With the Star Wars marketing blitz in full swing (hey, why do you think we put this on our cover?), LucasArts is gearing up to release a bevy of video and computer games to fill its audience's apparently insatiable need for all things *Phantom Menace*, and we've got the goods on the first two titles out of the gate. Take a look at *The Phantom Menace*, an action/adventure game that follows the movie scene for scene, and *Episode I Racer* — wanna guess what that one's all about?



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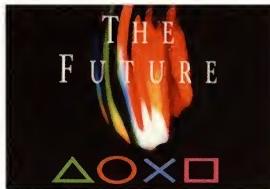
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MAN VS. MACHINE

Valve's *Half-Life* represented a giant step forward in the artificial intelligence of game opponents, but even bigger things may be coming. *Next Generation* looks at AI past, present, and future

BOBBY KOTICK

Founded in 1979, Activision was the original third-party developer. Twenty years later, it's still going strong, thanks largely to its CEO since 1990, Bobby Kotick. What's the secret of its success?



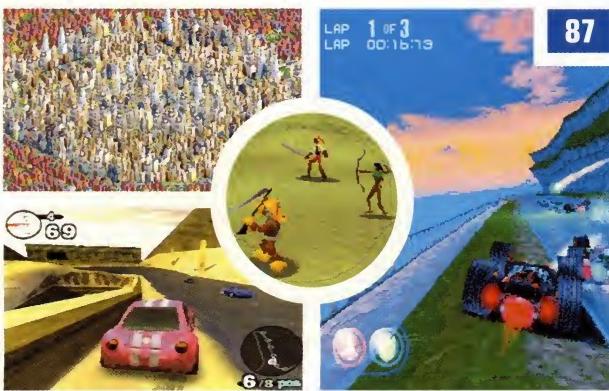
INTELLIGENCE

PlayStation 2: the full story straight from Sony executives in Japan • Two states mull bans on violent games • Will the next-generation Nintendo system be released in 2000 — or 2001?



ALPHAS: 20 games previewed

The latest word on tomorrow's hottest games and the people who make them. If we don't cover it, it probably isn't worth knowing about, so check here first



FINALS: 12 games reviewed

The fact that we get paid to play games means we are professionals, so kids, please don't try this at home. Find out what our crack staff thought about all the latest releases

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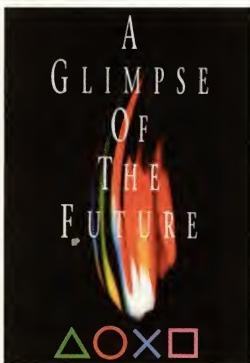
Boasting supercomputer-level technology, Sony Computer Entertainment provides awe-inspiring specs and demos running on prototype silicon

INTELLIGENCE

Game industry news and analysis

SONY ANNOUNCES PLAYSTATION 2

The most powerful game system ever described has been revealed



Five years ago, Sony revolutionized the game world with PlayStation, the first practical 3D game system. On March 3, 1999, Sony did it again, dealing a death blow to the idea that consoles have lost their technological edge by unveiling a system that will provide better than three times the performance of a 500MHz Pentium III — and better realtime polygon performance than an SGI Infinite Reality 2. "This is science fiction," said veteran developer Mark Cerny, describing his initial reaction to the system. (Cerny has been working on PlayStation 2 since a short time after his departure from Universal

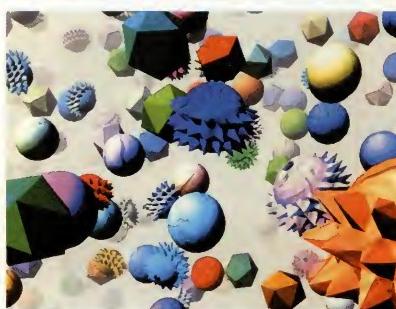
to start Cerny Games.)

Ken Kutaragi has never made a secret of his plans for PlayStation 2: Back in **NG 06**, three months before the U.S. launch of PlayStation, he told us that "within 10 years we will have graphics generation by .25-micron silicon [enabling] CG rendering power of 10 million polygons a second." Perhaps he was just being modest: five years later, his team has announced a .18-micron processor that should easily double that on-screen polygon count.

Although key details about Sony's next-generation processor were revealed on **Next Generation**



Created by Square, this bar fight showed several fighters smashing tables and chairs in realtime, with a particle-system waterfall thrown in for good measure



PlayStation 2 realtime hardware demos (clockwise from top left): these balls are made from lines, not polygons, and are anti-aliased before being drawn; these feathers show off PlayStation 2's alpha-channel/transparency features, as well as its math power — the paths of the feathers are computed randomly; not too impressive to the uninitiated, these spiked balls and polyhedrons show off PlayStation 2's pure polygon-pushing prowess; these snake-like lines, originally created by Namco for a SIGGRAPH demo, were ported to PlayStation 2 in hours

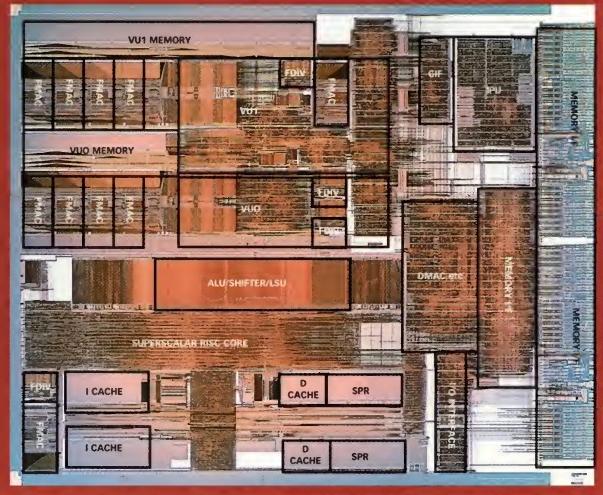
Online after an electronics trade show, it was at PlayStation Meeting 1999 (convened ostensibly to celebrate the sale of the 50 millionth PlayStation) in Tokyo that the entire system was revealed by PlayStation creator Ken Kutaragi.

At the meeting, Kutaragi related his take on the evolution of computers: In the '80s came sound synthesis with the launch of cheap DSPs. Then PlayStation provided the first practical, realtime 3D graphics synthesis. PlayStation 2, said Kutaragi, will offer nothing less than emotion synthesis: the ability to have characters demonstrate facial expressions in realtime.

Then Kutaragi revealed the specs (see sidebar), including: polygon drawing and pixel fill rates 10 times better than the PowerVR 2 chip that powers the Dreamcast, and more than five times better

EMOTION ENGINE

CPU Core:	128-bit RISC (MIPS IV-subset)
Clock frequency:	300MHz
Integer Unit:	64-bit (2-way superscaler)
Multimedia extended instructions:	107 instructions at 128-bit width
Integer general-purpose register:	32 at 128-bit width
TLB:	48 double entries
Instruction cache:	16KB (2-way)
Data cache:	8KB (2-way)
Scratch pad RAM:	16KB (dual port)
Main Memory:	32MB (Direct RDRAM2ch@800MHz)
Memory Bandwidth:	3.2GB/second
DMA:	10 channels
Coprocessor 1:	FPU (FMAC x 1, FDIV x 1)
Coprocessor 2:	VU0 (FMAC x 4, FDIV x 1)
Coprocessor 3:	VU1 (FMAC x 5, FDIV x 2)
Floating Point Performance:	6.2GFLOPS
Geometry	
•Perspective Transformation:	66 Million polys/second
•Lighting:	38 Million polys/second
•Fog:	36 Million polys/second
Curved surface generation (Bezier):	16 Million polys/second
Image Processing Unit:	MPEG2 Macroblock layer decoder
Image Processing Performance:	150 million pixels/second



than SGI's Infinite Reality 2; the ability to add USB and FireWire devices such as keyboards, joysticks, and video cameras; a PCMCIA slot for a modem; a 2560-bit wide bus in the graphics processor; and floating-point performance that leaves Intel's PII and PIII in the dust (at 15 times the speed of a PII 450 and three times the speed of a PIII 500).

Last came the demos — first the expected bouncing balls and geometric figures, then the impressive water and physics demos, and finally, the games. Cobbled together in two weeks by

teams from Square, From Soft, Namco, and Polyphony, a typical demo showed models that were originally destined for use in PlayStation 1 FMVs running instead in realtime. Square's demos ranged from a close-up of a face that could be distorted to show a wide range of emotions in realtime to the dance scene from *FFVII* with a fully controllable camera. Polyphony showed a *Gran Turismo* 2 track with a photorealistic car that boasted full reflection-, environment-, and bump-mapping. From Soft took a break from their *Armored Core* mech series to show off an

impressive graveyard with dozens of fully animated skeletons (and a massive boss monster). Most impressive was Namco's demo, however, which featured two 1,200-plus-polygon characters fighting while 30 equally high-polygon count onlookers cheered them on in a detailed 3D background.

The presentation left most attendees awed. On the following pages, we present the first look at the system and an overview of its elements. In the months ahead, we will be providing in-depth coverage of the technology behind PlayStation 2, and, more importantly, the games that will run on the system. The future is almost here...

PlayStation 2

Architecturally, PlayStation 2 is not much different from PlayStation 1: both feature a CPU, a graphics processor, and a sound processor. The main difference, beyond the I/O processor, is one of magnitude. About 10 orders of magnitude, in fact, making PlayStation 2 about 100 times as powerful as its predecessor. How did Sony manage to make this leap when generational changes in the PC-processor market are usually measurable only in single-digit percentages? The leap was accomplished in large part because



Namco's virtual model Reiko Nagase, of *Ridge Racer* fame, made the leap from FMV with a realtime runway walk on PlayStation 2. Polyphony showed super-high-res cars from a future *Gran Turismo*.

WHAT IS IT?

This never-released CD add-on for Super Nintendo was killed when Nintendo ditched it in favor of a partnership with Philips

NEXT MONTH

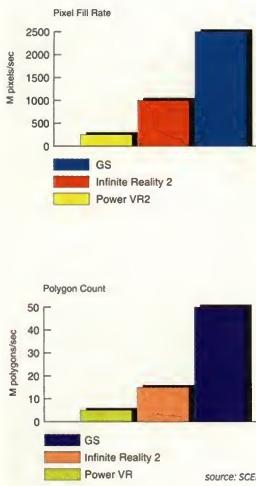
Don't miss our continuing coverage of the next-generation console wars:

Dreamcast: Sega Strikes Back

In an exclusive interview, Sega of America head Bernie Stolar takes on PlayStation 2 and reveals Sega's strategy for making sure you own a Dreamcast well before PlayStation 2 even hits the shelves.

PlayStation 2: 20 Questions

Revealed: The 20 questions you should be asking about Sony's next-generation machine, with the authoritative answers that only *Next Generation* can provide.



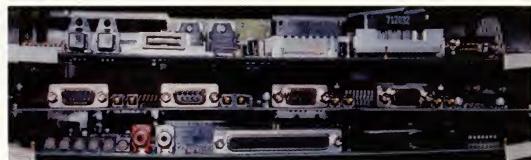
IT IS ...

The PlayStation, Sony, incensed at being spurned, immediately started development of PlayStation X (PSX), what we now know as PlayStation 1

the development team didn't need to concern itself with backward compatibility (which was handled by using a PlayStation 1 CPU as the I/O processor), and was thus free to design the most efficient processor it could (this is in sharp contrast to Intel, which must keep its processors compatible with the 8086 architecture it created 20 years ago) for the dedicated task of creating realtime, interactive computer graphics.

The result is a processor capable of such feats as drawing a scene at 600 frames per second in memory, then adding algorithmically calculated motion blur as the frames are dithered down to 60 frames per second for screen drawing, resulting in far smoother-looking animation than would normally be possible at 60 frames per second.

The system is so powerful that some think it may pose a threat to the increasing Wintel dominance of the workstation market (for some, Sony's choice of Linux as the OS for the development system is a telling sign), but don't sell your stock just yet: for the time being, Sony says, it



A sneak peek at the three boards that currently make up PlayStation 2 (top). Above: two stacked dev kits give a better idea of their size; using PlayStation 2 to play Crash 3 — compatibility testing or just having fun?

has no desire to make anything with the chipset except PlayStation, and while Softimage and others plan on making

development tools for PlayStation 2, the tools will run on traditional workstations, not PlayStation 2s (until InterAct releases a 2GB Dex Drive for PlayStation 2, anyway).

or passed to the GS.

More important than the buses, though, is the stunning number of floating-point calculations the EE is capable of. Floating-point numbers are less precise than integer numbers (usually they're stored as just one or two significant digits plus an exponent, so the same number might be expressed as 370,000 or 3.7×10^5 for floating point, versus 371,085 for integer), but they can be added or divided much faster (you simply multiply or divide the significant digits and add or subtract the exponents instead of actually having to work on every digit of the number with integer math). For 3D,

The Emotion Engine

The most important element in PlayStation 2 is the 300MHz "Emotion Engine" CPU, developed jointly by Sony and Toshiba. The chip itself actually features four processors: the RISC CPU itself, a floating-point unit co-processor, and two nearly identical vector co-processors (there is also an MPEG2 decoder on the chip). Unlike traditional processors, which feature only one bus (or path) between the co-processors, EE has two: a traditional 128-bit-wide path that connects the CPU and the vector processors and interfaces with the 32MB main memory and the GS graphics processor; and a second 128-bit bus that connects the CPU directly with the two vector units and those units directly with the GS interface. (The FPU is connected by a separate bus directly with the CPU.) Why is the secondary bus important? Because it enables extremely rapid data transfer inside the chip: data can be brought in from main memory at the same time it is being worked on in the vector units



Another Square demo featured a super-high-polygon-count head distorted realtime to create the most realistic facial expressions Next Generation has seen in a digital animation

SPECIFICATIONS FOR THE NEXT GENERATION PLAYSTATION

Release date:	Winter 1999, Japan; Fall 2000, U.S.
CPU:	128-bit MIPS-architecture-compatible "Emotion Engine"
System clock frequency:	300 MHz
Cache memory:	Instruction: 16KB, Data 8KB + 16KB (ScrP)
Main memory:	Direct Rambus, 32MB
Co-processor:	FPU (floating point unit) FP multiply accumulator x1 FP divider x1 VU0, VU1 FP multiply accumulator x9 FP divider x3
Vector units:	6.2 GFLOP
Floating Point Performance:	66 million polygons/second
3D Geometric transformation:	MPEG 2
Image decoder:	"Graphics Synthesizer"
Graphics Processor:	150 MHz
Clock frequency:	48GB/second
DRAM bus bandwidth:	2,560 bits
DRAM bus width:	24-bit RGB, 8-bit Alpha channel, 32-bit Z Buffer "SPU2+CPU"
Pixel configuration:	ADPCM: 48ch on SPU2 plus definable, software-programmable voices 44.1KHz or 48KHz (selectable)
Sound:	I/O Processor
Number of voices:	MIPS R4000 compatible (PlayStation 1 CPU) 33.8MHz or 37.5MHz (selectable)
Sampling frequency:	32-bit
I/O Processor:	IEEE1394 (FireWire), USB
CPU Core:	PCMCIA card slot
Clock frequency:	DVD
Sub bus:	
Interface types:	
Communication:	
Disc Drive:	

which requires millions of calculations per second to form the mathematical representation of the 3D world, but not greater-than-single-pixel precision, they're perfect. The downside is that to be really effective, they require dedicated silicon. Enter the EE. It has a fairly standard FPU, which has one dedicated floating-point multiplier and divider in hardware, but where it really shines is the vector units. VU1 has five FP multipliers and two dividers, and VU0 has four multipliers and one divider.

The vector processors are special in another way, too. Unlike most processors, which store one number at each address in memory, the vector units store four numbers at each address, and can perform operations on the four numbers simultaneously. This is crucial for 3D, where the four numbers represent the X, Y, and Z planes as well as W (which deals with where the polygon is in the scene and whether or not it should be drawn or calculated). (Trivia note: vector processing first popped up in supercomputing processors — the main difference between the EE's VPs and a Cray's is that in real supercomputers, the vectors hold thousands of numbers at each address. "You won't be modeling the weather on the Emotion Engine," says Naughty Dog's Andy Gavin, "but it's still the most impressive piece of hardware for the price I've ever seen.")

The net result is that while you might not want to run a spreadsheet on it (it would deliver the approximate performance of a 486), the Emotion Engine is one of the most perfect 3D math processors on the planet — 6.2 billion floating-point operations per second. The importance of this figure just cannot be overstated: it's more than enough for computing AI, physics, and incredibly detailed, complex 3D worlds. Having a graphics system that can draw 50 million polys doesn't mean much if you can't calculate them, but with the Emotion Engine, PlayStation 2 seems up to any conceivable challenge.

The Graphics Synthesizer

Two things stand out as immediately impressive about the Graphic Synthesizer. First is Sony's decision to put the Video RAM directly on the chip. Although it only has 4MB of RAM, this should be enough for NTSC-level display and probably even HDTV. (We'll go on the record now and say this could be a trouble spot with HDTV, though.) By putting the RAM on the chip, Sony achieves absolutely amazing throughput — the total memory bus bandwidth is a stunning 48GB per second. That means there will be no (or almost no) latency between VRAM and the pixel processor, resulting in amazing fill rates and polygon drawing rates. The internal bus architecture of the GS is 2,560 bits: 1,024 for reading and writing and 512 for textures.

The renderer itself also supports all the functions we've come to expect from high-end PC accelerators, such as mip mapping, bi- and tri-linear filtering, alpha-blending, fogging, anti-aliasing, and multi-pass rendering (done with the

assistance of the CPU). It also adds hardware-level bump-mapping.

It's important to note that while the GS turns everything into pixels drawn onscreen, it does *not* have to turn everything into polygons before it draws them. Sony showed a number of demos that featured prototype hardware-drawing 3D lines as well as particles, and the PlayStation 2 should be capable of doing curved surface representations (although these will be dithered to triangles before rasterization). The GS even boasts a robust sprite engine.

Unanswered Questions

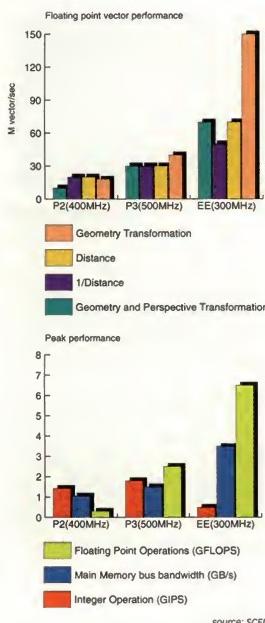
There are still a number of question marks surrounding Playstation 2. While Sony did mention sound on the Playstation 2 spec sheet, the company was unwilling to talk further about the sound capabilities of the system. Other obvious unanswered questions include case design: According to SCEA Marketing VP Andrew House, there is no final case design yet, but



From Software's excellent graveyard demo featured dozens of skeletons animating in realtime at near-Pixar quality



Clockwise from top left: the 3D particle-system sparkler is computed at 600 FPS, then drawn at 60 FPS with added motion blur; the motion of the water and the submarines is computed algorithmically here; these morphing metallic shapes showed off PlayStation 2's environment- and reflection-mapping; the wave pattern in this lake is created by the interaction of the water with the fractal-generated landscape. The shore, the lake bed, and the surface disturbances are used to compute the motion of the water volume



CAN SONY MAKE ENOUGH PLAYSTATION 2s?

Sony will be producing Emotion Engine in a new joint venture with Toshiba. The as-yet-unnamed company will start production of chips this summer, with an initial capacity of 10,000 8-inch wafers per month. Given the 2.4cm die size of the EE chip, Sony will be able to fit around 42 chips per wafer, for a theoretical maximum of 420,000 EE chips per month. Assuming that PlayStation 2 launches in Japan February 1, and production starts August 1, Sony could have up to 1.44 million PlayStation 2 chips ready for launch. Unfortunately, that 1.44 million number is unobtainable. First, no fabrication plant has a 0% failure rate — a number of chips will fail, lowering the yield. Worryingly, the .18-micron process that Sony and Toshiba are using for the chip has a notoriously low yield rate, and given that this is the first .18-micron process chip for either company, it isn't unreasonable to assume yields will hover around worst-case-scenario marks (20–25%) for several months as production ramps up. Even if yields are moderate (60%), and the wafer production rate is increased, **Next Generation** will not be surprised if shortages are the rule, rather than the exception, when the system is launched.

marketing is working closely with Sony's industrial designers to produce "something that is equally impressive to the original PlayStation case design."

Also unknown is the number of controller ports. Kutaragi's answer to a question on the subject was "How many do you want?" While this led some to expect daisy-chainable controllers à la 3DO, a glance at the dev system leads **Next Generation** to believe the actual number will be four — although if, as planned, the joypad connectors are USB, adding more devices to a USB chain is a no-brainer.

Although the system will ship with a DVD drive, Sony refuses to confirm whether or not the unit will actually be able to play off-the-shelf DVD movies. We think that this is probably being kept sketchy as a favor to the consumer-electronics department, which is keen to charge full price for DVD players for as long as possible: if PlayStation 2 can't play DVDs from the minute it ships, we'll be shocked.

Three more question marks are the name, price, and release date. Sony is currently referring to PlayStation 2 as "The Next Generation PlayStation," and while we certainly feel that "Next Generation" is a fine name for the system, it is unlikely, unfortunately, that it will be the final name on the box. Current contenders include PlayStation 2000 (unlikely) and PlayStation 2, but one thing is confirmed by Sony: there is far too much equity in the PlayStation brand to abandon the name.

Equally fuzzy is the price point: the \$850 price printed by the AP seems to be the result of a mistranslation of a misquote. Certainly the price will be determined in part by how much it costs to build (which is itself a factor of the chip yields), but it's worth noting that the best estimates are that Sony took a \$40 loss on the first few hundred thousand PlayStations it sold in the U.S., so don't expect price to match cost exactly. **Next Generation**'s best guess at press time: \$299, or \$50 more than Dreamcast, whichever is lower.

Although Sony has committed

GRAPHIC SYNTHESIZER SPECS

GS Core:	Parallel Rendering processor with embedded DRAM
Clock frequency:	150 MHz
Pixel Engines:	16 (in parallel)
Embedded DRAM:	4MB
Total memory bandwidth:	48GB/second

INTERNAL DATA BUS:

- read: 1024-bit
- write: 1024-bit
- texture: 1024-bit
- total: 2560-bit

Display color depth: 32-bit (RGBA 8-bit each)

Z-Buffer: 32-bit

Rendering Functions: texture-mapping, bump-mapping, fogging, alpha-blending, bi- and tri-linear filtering, mip mapping, anti-aliasing, multi-pass rendering

RENDERING PERFORMANCE:

Pixel fill rate: 2.4 gigapixels/second (with z-buffer and alpha-blending enabled)

1.2 gigapixels/second (with z-buffer, textures, and alpha-blending enabled)

Particle draw rate: 150 million/second

Polygon draw rate: 75 million/second (small)

50 million/second (48-pixel quad with Z and A)

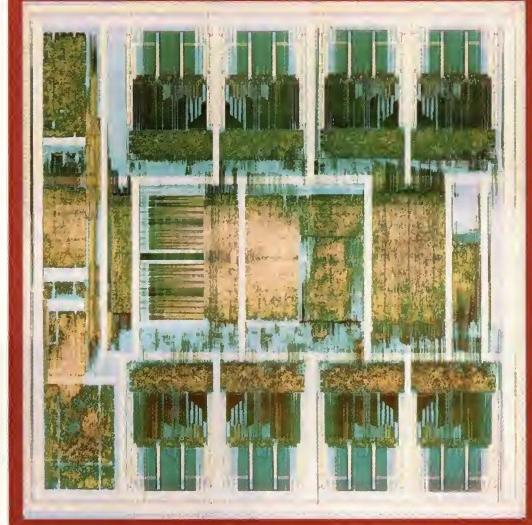
30 million/second (50-pixel triangle with Z and A)

25 million/second (48-pixel quad with Z, A, and T)

Sprite draw rate: 18.75 million/second (8 x 8 pixels)

Output: NTSC/PAL, Digital TV, VESA

Maximum resolution: 1280 x 1024



to a "winter" release date in Japan, we expect that date to be closer to March 2000 than December 1999. In the U.S., a 9/9/2000 release date (exactly five years to the day after PlayStation 1), seems like too good a marketing opportunity to pass up.

One question that is answered: despite the fact that the system will run very hot (Ken Kutaragi says it will require around 50 watts), you probably won't have to turn it upside-down anytime soon, because it will come with a fan.

What's next?

Why announce now? Sony says merely that the time was right, but we can't help thinking that the buzz Dreamcast was getting had something to do with it, despite the

earnest denials of legions of Sony employees. And the reaction of competitors? No competing processor makers, Intel included, had any immediate comment, and Sega quickly convened a conference call to downplay the impact of PlayStation 2.

One thing is sure: While neither Nintendo nor Sega (nor Microsoft nor Intel, for that matter) are going to roll over and let Sony dominate the next generation without a serious fight, Sony's first salvo in the latest battle for videogame supremacy is a massive one. In the coming months, count on **Next Generation** to provide the most detailed, unbiased coverage of what is quickly becoming the console war to end all console wars. NC

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NINTENDO 2K OR 2K1?

With PlayStation 2's official system specifications still hot on the minds of gamers, Nintendo has yet to release any hard facts on its next-generation console except to confirm that it is in the works. The Art-X-developed machine, tentatively dubbed N2000, is scheduled to be introduced to the market in Q4 of next year — more specifically, October 2000. However, more than one second-party developer for the system has told **Next Generation** that Nintendo has no chance of meeting its targeted launch deadline and that a Q4 2001 release of the system seems more likely.

Details on the console's specs are still scarce, but **NG** has learned that in addition to experimenting with DVD storage, Nintendo is also investigating a proprietary disk system that offers around 1.6 Gigabytes of space. The console's power is still undetermined, but we do know that as far back as the middle of 1998, Art-X was researching graphics technology that could output 20 million raw polygons (although this number has likely changed by now). Unlike Sony's PlayStation successor, the N2000 will definitely not offer backward compatibility to the N64. There are two primary reasons for that decision: difference in the chip architecture (the N2000 will not contain a MIPS processor), and the cost of including a cartridge slot in addition to the new storage unit.

IN THE STUDIO

Riddle me this: If Acclaim no longer has the rights to the *Batman* license, who is going to create the next *Batman* game? Holy French publishers, it's Ubi Soft! The company has signed a deal with Warner Brothers Interactive and DC Comics to bring *Batman* to Dreamcast, PC, Nintendo 64, PlayStation, and Game Boy Color. The titles will be based on the animated series, *The Adventures of Batman and Robin* and will be available in 2000.



Accolade is readying a *Destruction Derby*-style racing game for PlayStation that should be available this fall. The game is being created by U.K. developer Pitbull Syndicate and includes team members that worked on the original *Destruction Derby* and *Destruction Derby 2*.

It's no coincidence that Sega will have an NFL football Dreamcast game ready this fall just in time for the next season and the Dreamcast launch. But it won't be alone! Acclaim is jumping right in with a Dreamcast version of *NFL Quarterback Club*. While it looks like John Madden won't be attending the Dreamcast party, you can bet Midway will be looking for a play-off bid with a Dreamcast version of *Blitz 2000*. How's this first-year competition going to stack up? According to Sega insiders, Visual Concepts has been working on Sega's football game for over two years, which they feel guarantees a powerful and more polished product than what other publishers could possibly offer. However, Iguana's *Quarterback Club* series has been steadily improving, and it's likely Iguana is handling this Dreamcast version as well. The winner will be determined this fall.



Last month, there was talk that Madonna was trying to get the film rights to Square's *Parasite Eve*, but the Material Girl has yet to materialize with a deal. But never mind the pop star — reports from Japan suggest *Parasite Eve 2* for PlayStation is already in the works.

The Star Wars Episode I games aren't stopping with *The Phantom Menace* and *Racer*. Factor 5, the developer of *Rogue Squadron*, is also working on an unannounced *Episode I* game. Considering how much we enjoyed *Rogue Squadron*, we can only hope they're working on *Star Wars Episode I: The Shooter*.



Another racer is making its way to N64, this one courtesy of Snowblind Studios. Coming fresh off the heels of *Top Gear Overdrive*, the Bellevue, Washington-based developer is working on a motorcycle racer that will expand on the company's *Top Gear Overdrive* engine. Not unlike EA's *Moto Racer* series, the game is currently planned to combine street riding and off-road racing. Kemco is set to publish.

NEWS BYTES

Compiled by Colin Campbell of Fastest Game News Online

What will Sega's ad slogan be for Dreamcast? At press time, speculation was growing that the distinctly Apple-esque "Dream Big" had been seized upon by creepy Madison Avenue types. Bernie Stolar apparently told one reporter that he'd never heard the phrase before but that it "sounds pretty good." Does this mean it's the final slogan? Dream on. **"Statting the Obvious"** award of the month goes to Ray Muzyka from BioWare. When asked about the full sequel to *Baldur's Gate*, he revealed: "We must improve the game with the sequel." You may laugh, but if more developers made

that simple connection, the game industry would be a finer place. Muzyka's homespun simplicity is almost sublime. "We have made the decision to try to improve almost every area of the game in some way, being careful at all times to not try to fix what ain't broken." Developers should copy this quote and paste it at the head of every sequel design document. **Most caring corporation in the industry?** Step forward, Sony. Our charming friends made the tough decision to lay off a bunch of folk at Psygnosis in February. According to our sources, tearful staffers were

informed that they would receive a whopping one month's severance pay. But that's not all. They were also offered a free six-hour round trip from their workplace in Liverpool down to London, where they could present their products and ideas to the Sony people who were taking over their projects. Ain't that sweet. **We take that back.** Sierra gets the award for apparently giving its staff a whole week to decide whether to uproot and relocate to Washington or to quit their jobs. One employee said, "Why did they give people only a week to decide on their major life decisions? That's hardly

acting out of consideration." Come now. Employees are so demanding these days. **Microsoft's annual PR jamboree** Gamestock was an intense event. We spoke to one attendee who observed: "It's like getting snatched by aliens who stick a pro-Microsoft implant in your brain. Resistance is futile." We disagree. Microsoft events are excellent opportunities to sample the best computer games ever created and to consume the tastiest snacks ever made, while enjoying the best offices ever built. Gamestock is so great that we'd sell our first-born into a life of slavery just to smell a ticket

DREAMCAST NEWS BYTES

Saturn emulator for Dreamcast **under consideration**

Reliable sources have revealed to **Next Generation** that a Dreamcast revival of *Chakan — The Forever Man* is in the works. *Chakan*, the gothic, sword-wielding anti-hero cursed to live eternally, made his first appearance on Game Gear in 1992 and Genesis in 1994. The games are based on the comic series created by artist Robert A. Kraus. Fans of *Chakan* may want to check out the official web site at www.chakan.com. Expect screenshots and details on the Dreamcast game to appear in these very pages in the near future.

There will be "at least five Konami Dreamcast titles at the

[U.S.] system launch," **Next Generation** learned from a Konami spokesperson. Although specifics have not yet been revealed, it's safe to assume that *Castlevania*, *Flight Shooting* and — hopefully — a conversion of Konami's PlayStation and enhanced-PC title, *Metal Gear Solid*, will be among the titles. Konami could not confirm the existence of a U.S.-developed title, code-named *Dragon*.

In a rather curious move, Sega of Japan was selling the PC version of *Baldur's Gate* on its official Dreamcast web site in January. What are the chances the best-selling RPG will appear on Sega's new console? Big. Sources close to

Interplay did not confirm nor deny its development. *Baldur's Gate* developer Bioware recently announced development of *MDK2* for Dreamcast and PC.

Planet Moon Studios, developer of the much-anticipated PC title *Giants*, is "seriously considering doing a Dreamcast version," Creative Director Tim Williams revealed to **Next Generation**. The former member of Shiny's *MDK* team (who left the company to form Planet Moon) went on further to say, "if we do go ahead with a console version, it will most likely be on Dreamcast, be done in-house, and immediately after the PC game is completed." With

Giants, *Galleon*, *MDK2* and the strong possibility of *Baldur's Gate* appearing on Dreamcast, Interplay's line-up for Sega's new hardware is looking strong.

Backward compatibility for Dreamcast? Although no one will confirm (or even dignify with a response) rumors that a PlayStation emulator for Dreamcast is in the works, Sega is considering releasing a Saturn emulator for Dreamcast, according to sources close to the company. Drop the emulator disc in your Dreamcast, wait till the program loads, and then put in your Saturn disc. Will this product ever see the light of day? Too soon to tell. **NC**

TWO STATES MULL VIOLENT GAME BANS

by **Marcus Webb**, editor of *RePlay* magazine

"**V**ideo game violence deadens children to killing and makes them addicted to killing." That was one conclusion of a study presented this spring to the Washington State legislature. Worried lawmakers have set up a commission to do an in-depth survey of the effects of violence in games; the state's Health Commission has also been charged

with studying the abatement of aggressive juvenile behaviors related to violent games.

Both surveys are due back to the House Criminal Justice Committee by year's end. Results could lead to a higher game prices. Why? Politicians are already thinking of slapping games with penalty taxes to pay for game-education funds. In other

words, players may soon foot the bill for government-mandated anti-game propaganda campaigns. The bill in question is chiefly aimed at consumer games, but sponsor Rep. Mary Dickerson pointedly refused requests for an arcade exemption.

Meanwhile, the industry was rallying to fight a pending bill in Florida that would ban players

under 18 from locations with videogames that have "red sticker" ratings (indicating intense violence). Game factories and arcade owners are working together to convince Florida opinion-makers that the industry's voluntary rating system, already in place, is all that's necessary — much like the movie industry's rating codes. **NC**

to the event. Gladly. Er, wait a minute... **Tale of two companies**. THQ — best known for Game Boy titles and wrestling games — announced fourth-quarter income of \$11 million. Interplay — best known for innovative RPGs and strategy games — lost \$16 million during the same period. Today's lesson? Don't launch a sports category against EA. **BSG Labs has unveiled** The Intensor LX, a new sensory gaming chair due for release in March '99. This model is based on a previous chair, which, evidence would suggest, was actually quite popular. **The cynical exploitation** of mainstream journalists

by videogame marketeers is surely a national scandal. These deluded creatures are now so predictable that companies are including anticipated "bad" publicity to their games in their marketing campaigns. Hot-B's Brad Bergland said the company was "hoping" its urban gangland game *Beat Down* would garner outraged publicity, especially given that the game features illegal drugs and the mugging of pedestrians. "60 Minutes" — we beg of you — resist. **Skip Danau would never have appeared** in the pages of **Next Generation** if a game called *Deer Avenger* hadn't been released. You

see, Skip is president of Safari Club International, a pro-hunting organization. And Skip got to look at *Deer Avenger* one day, a game in which deranged deer hunt down various caricatures of hunting types. So Skip believes the game is unfair to hunters and is "gutter material." You might expect *Deer Avenger* publisher Simon & Schuster to defend itself with a high-flying lawyer. But no. The company turned itself over to the capable hands of Elmer Fudd. "No hunting organization ever accused Elmer of misrepresenting the sport," said the firm's Jeff Siegel. "There's a

simple reason — it's just a cartoon." **Meanwhile, hearty congratulations** to Sony for its alleged reluctance to approve hunting games for PlayStation. No, that's not strictly accurate. Hearty congratulations to Sony for its alleged reluctance to approve animal hunting games for PlayStation. Apparently, it's still okay to mow down humans. **Eidos says there's a new Tomb Raider** game in development. In other news - the sun will rise in the East tomorrow.

For daily games news, go to www.fgnonline.com

YOU'RE GONNA DIE



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BIG IN JAPAN

Next Generation reports from the Eastern front

Insert Quarter To Continue



The most recent AOU (Japan's largest arcade trade show), held in Makuhari Meese on Feb. 17 and 18, was yet another chance for arcade manufacturers to show off their latest games in development. Unlike many other arcade shows that exist for the sole purpose of showing off existing product lines, this show puts a much stronger emphasis on games in progress — and it invariably features a few surprise announcements.

This time around, there were two main trends among the products on the show floor. The first was readily visible at many of the leading developers' booths, where games on Sega's Naomi board were being shown for the first time. Many of the biggest arcade developers, including Capcom, Tecmo, and even SNK (which had one of the surprise announcements of the show), have adopted the low-cost/high-power hardware to bring out their next generation of arcade games. Sega has also demonstrated an enormous amount of commitment to the new platform through its plan to allocate fully half of the PowerVR chips fabricated to Naomi boards rather than Dreamcast units.

Also visible in almost every company's booth was one of the new rhythm-based games. Based primarily on the success of Konami's *Beatmania*, rhythm games look to be the hottest trend in Japanese arcades for the coming year.



Konami's booth was primarily filled with all sorts of rhythm action games



The Japanese arcade industry uses the AOU show as a showcase for the games that will be hot in the upcoming year

Game of the show was undoubtedly Sega's *Ferrari 355* racing game. Yu Suzuki himself has been working on this game for almost four years, and it is one of the most visually astounding racers ever seen. Supposedly, the visuals are augmented by the fact that the game is running on a "super-Naomi" board (four Naomi boards linked together), but because the game was shown on video, nobody got a chance to take a look. The final cabinet will also feature three screens to further enhance the realism of the game. Also from Sega was *Crazy Taxi* as well as a flight simulator called *Pilot Airlines*.

As usual, Capcom was showing its newest addition to the *Street Fighter* series, titled *Street Fighter III Third Strike*.



Yu Suzuki's *Ferrari 355* game was only shown on video, but it looks breathtaking. It is supposedly the first Naomi game to harness multiple arcade boards.

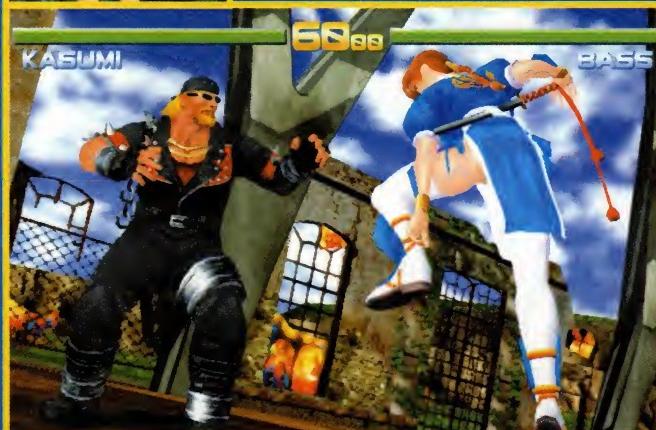
Strike. This final installment to the *Street Fighter III* series features plenty of new moves and characters, and will undoubtedly keep *Street Fighter* fans happy for a while. Also on display were a vertical scrolling shooter called *Giga Wing* and the Naomi-based *Power Stone*. One of the biggest surprises of the show was the new *Strider* game, which was being shown on the video walls around Capcom's booth. The game looks to be much like the original but now sports 3D backgrounds.

In other fighting game news, SNK displayed its first 3D entry in the *Fatal Fury* series, *Fatal Fury Wild Ambition*, which, thankfully, featured graphics far better than SNK's prior 3D efforts. The biggest rumor of the show also came out of SNK in that it has supposedly approached Capcom with plans for the two companies to develop a game together. At this point, neither company has confirmed the existence of such a project, but the obvious inference is that an SNK vs. Capcom title may be, at the very least, in the planning stage.

If anyone could possibly doubt the current popularity of rhythm games in Japan, one look at the Konami booth would shatter that idea in a nanosecond. Konami had heavier traffic than almost any other company on the show floor, and the company showcased rhythm games almost exclusively. In



Capcom showed off the power of its CPS 3 board with the popular *Street Fighter 3: 3rd Strike* and *Giga Wing*. *Power Stone* also made an appearance.



Dead Or Alive 2 is one of the most visually impressive games we've seen so far on the Naomi hardware. Hopefully, the gameplay will be just as impressive.

addition to a linked-version of their hit dancing game *Dance Dance Revolution*, Konami also showed off *Guitar Freaks* and *Drum-Mania*, which are spin-offs of the company's popular *Beatmania* franchise. In fact, the only non-rhythm game at Konami's booth was the unique *Sniper Scope*, a game that enables players to look through a small scope with its own screen to pick



Based primarily on the success of Konami's *Beatmania*, rhythm games look to be the hottest trend in Japanese arcades for the coming year

off enemies much as a sniper would.

And following close behind, Namco didn't show off any of its Naomi titles rumored to be in development but instead relied on the arcade version of Enix's popular *Bust A Move* (known as *Bust A Groove* in the U.S.) and another rhythm game called *Rhythm Groove*. *Bust A Move* as an arcade game is almost identical to the PlayStation version except for the fact that its controls are simplified, now featuring three buttons instead of four.

But the biggest surprise of the show had to be the constantly-playing demo of Tecmo's phenomenal-looking *Dead Or Alive 2* on the Naomi board. Tecmo has made incredible strides to put to rest the idea that *Dead Or Alive* is just "Virtua Tekken with bounce" — players can now switch between characters in a single game, and fighting takes place on multiple levels. One scene showed a character being thrown out of a window in a clock tower — then the other player jumps out after him, only to resume fighting on the ground.

Overall, it looks as though the arcade industry is starting to pick up in Japan again, thanks in part to cheaper hardware as well as some popular gaming trends.

NG

SELLING BIG IN JAPAN THIS MONTH

1. Final Fantasy VIII [Square] PS
2. Nintendo All Star Smash Brothers [Nintendo] N64
3. Space Ship Yamat [Bandai] PS
4. Dragon Quest Monsters Terry's Wonderland [Enix] GB
5. Yu-Gi-Oh! Dual Monsters [Konami] GB
6. Mario Party [Nintendo] N64
7. Banjo and Kazooie [Rare] N64
8. Tokimeki Memorial Pocket Culture version [Konami] GB
9. Sega Rally 2 [Sega] DC
10. Simple 1500 Series Vol. 1 The Mahjong [Culture Publisher] PS

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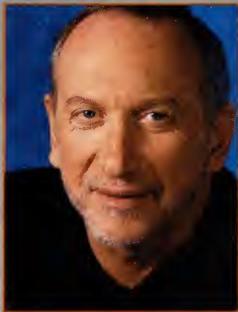
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DREAMCAST COUNTDOWN

Next Generation tracks the progress of Sega's dream machine

STATE OF THE DREAMCAST



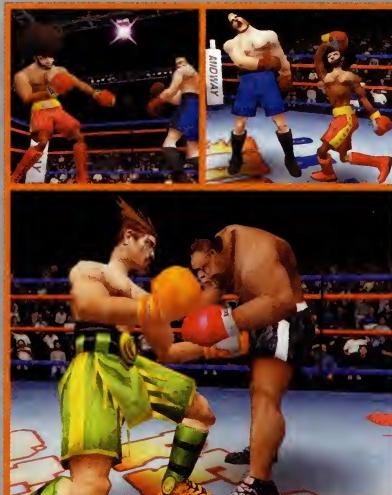
Sony's next-generation PlayStation announcement sent huge waves throughout the Dreamcast development and fan community. To help counteract this reaction, Sega's president and COO Bernie Stolar held a brief teleconference in which he clarified Sega's position. Stolar said that the retail community is very excited about Dreamcast and that there are already an unprecedented number of preorders at chains such as Babbage's even though there is not yet a firm release date or price. He then said that while Sony has only shown specs on paper (and, we should point out, demos running on prototype hardware) for a system that won't be out until 2000, Dreamcast is a reality today. He added that a Dreamcast DVD drive is planned. Unfortunately, that was all Sega had to say, and as of press time, there are still no hard facts on pricing or release. These should be forthcoming at E3.

Ready 2 Rumble

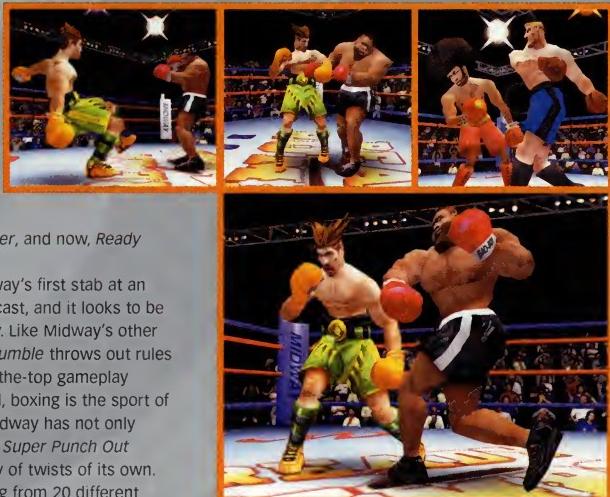
Among U.S. developers, none has been as forthcoming about its Dreamcast releases as Midway. Midway titles announced to coincide with the Dreamcast launch include sure-fire hits like *Blitz 2000*, *Mortal Kombat 4 Special Edition*, *Hydro Thunder*, and now, *Ready 2 Rumble*.

Ready 2 Rumble is Midway's first stab at an original franchise on Dreamcast, and it looks to be an exciting and unique entry. Like Midway's other sports franchises, *Ready 2 Rumble* throws out rules and realism in favor of over-the-top gameplay mechanics. This time around, boxing is the sport of choice, and it seems that Midway has not only stolen a few pages from the *Super Punch Out* school, but has added plenty of twists of its own.

Players start by choosing from 20 different boxers, all with unique personalities and fighting styles. What **Next Generation** has seen ranges from the Mike Tyson heavily muscled look to the 1970s Superfly Afro, and all require different



The characters are so detailed that you can actually see them gasp in pain when they are hit



Two players will be able to go at it head-to-head via the Dreamcast modem

strategies to be utilized effectively. One thing all the boxers have in common, however, is that they look spectacular. Dreamcast's power enables developers to create stunning high-poly-count players, and it shows. These boxers look more like CG cartoon characters than anything we've associated with a videogame thus far.

As expected, there are several different play modes, including an arcade fighting mode and a championship mode. The championship mode is perhaps the most intriguing as it allows players to assume the role of a manager, train their boxers, buy new gym equipment, and even sign new fighters. Of course there's a two-player vs. mode, and Midway is also planning to enable network play via the Dreamcast modem. The company says that because it is designing the game especially for net-play, lag should not be an issue.

With great graphics, modem support, and a unique feel, this is the kind of title that Sega needs in order to demonstrate what its new machine can really do. And if the gameplay matches that of other Midway sports titles like *NFL Blitz* or *NBA Jam*, the company may find that its massive success on N64 is repeated on Dreamcast.

Capcom takes a **bold first step**
into the next generation of fighting games

Power Stone

FORMAT
Dreamcast

PUBLISHER
Capcom

DEVELOPER
Capcom

RELEASE DATE
Spring 1999

ORIGIN
Japan

In short, *Power Stone* is a fighting game with free-roaming 3D interactive environments, items, and objects. But unlike some pioneers in the free-roaming genre (*Blast Chamber*, say), *Power Stone* is a complete success. Battle happens across eight environments (initially, anyway) where you can do things like lift chairs and tables, swing off poles, and use different weapons to attack opponents. In the meantime, all participants scramble to obtain power stones, which, when brought together, imbue players with special powers. However, to stuff the actual



Although the character designs are simple, they're all very distinctive



Special attacks are powerful — but limited. At times, it's better to use increased strength for small characters to swing palm trees like the big boys

experience of playing the game into such a dry summary is like calling *The Phantom Menace* just another summer movie.

Power Stone is Capcom's first Dreamcast game as well as its first attempt to move beyond the strictures of the fighting game as defined by *Street Fighter II*. Capcom's staff has been looking at ways to move into true 3D fighting, rather than taking a 2D beat-'em-up and making it polygonal (a la *SF EX Plus Alpha*). While Capcom's approach is fairly similar to the one taken by Dream Factory for *Tobal* and

Ehrgeiz, it stands on its own as a unique entry in the fighting genre.

In emphasizing environment over straight combat, Capcom moves the fight away from the technician into the hands of the strategist. Each of the eight basic stages has a different assortment of props and terrains, and mastering them becomes almost more important than the choice of character. In Tong-An, for example, Wangtang can use the chairs and tables as both defenses and weapons, while Gunrock has a vested interest in destroying the furniture for

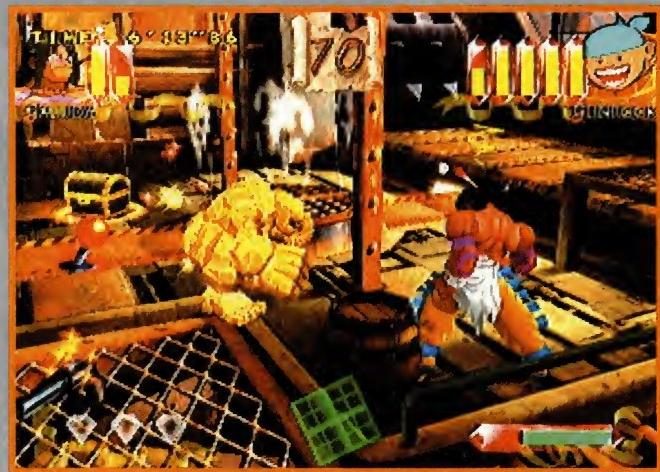


Unlike traditional fighting games, players have a plethora of strategies to choose among

maximum running space. Manches is initially very small, with little maneuvering space and only one light pole, but break the windows and players have extra space, suitcases, and rocking horses added to their arsenals. Instead of asking, "What's the right combo to use?" fighters will have to ask, "If I throw the park bench, should I go for the flamethrower or confront my opponent directly?"

Even that's a rather dull description of the seamlessness of the *Power Stone* combat experience. In what other game can a player catch a flowerpot, throw it to block a gunshot, roll over a table to grab a power gem, duck between the opponent's legs, run up a wall, flip over and slam the enemy into the wall, duck away, and watch a shelf full of Chinese wine pots fall on the poor sap's head? In what other game is that done with full control through a three-button interface? While other games have attempted it, no other game has done it so right.

Fighting game purists will complain that *Power Stone* doesn't have enough moves or depth to satisfy them. To some extent they are correct, and that hurt the star rating. Each character has a large but limited number of moves. A few punch-kick combos there, a couple of throws here, but nothing that comes even close to the hundreds of moves available in *Virtua Fighter 3*, for example. But mistaking a lack of moves for a lack of depth is the mistake of a gamer stuck in a rut, unable to recognize new and different ways of fighting. Button mashes get no special benefits. Every match, every stage, gives players hundreds of options to win. Avoid or catch thrown objects. Use poles and furniture to block energy attacks — or jump on top to gain height advantage. Grab power gems to turn into superforms and utterly waste opponents, or fool superform opponents into using the wrong attack and punish them with the flamethrower. Like a sports game, players have to learn to recognize the options,



Defeating powered-up characters is an expert's job, and a serious player's Holy Grail

form battle plans, and execute them. And like any other sport, no one strategy is correct. The situation is always fluid, and to win, fighters will have to use the tools and resources at hand — and even then, the win is never guaranteed.

Is *Power Stone* the next *Street Fighter II*? Well, *SFII* is almost uncontroversially responsible for creating the fighting game, while *Power Stone* is still just a fighting game. However, *Power Stone* will prove immensely influential in the long run as the first 3D fighter to be entirely playable.

RATING



The *Power Stone* designers, if nothing else, have imbued their art with a great sense of showmanship



As with the best fighting games, the win delivers a satisfying "in your face" humiliation to the loser

FORMAT	Dreamcast
PUBLISHER	Sega
DEVELOPER	CRI
RELEASE DATE	Spring 1999
ORIGIN	Japan

Aero Dancing

Originality has never been popular in the staid world of flight simulation. Maybe that's because, with the exception of Nintendo's *PilotWings*, developers have been reluctant to believe that console games without plenty of seat-of-the-pants-style dogfighting were worth making. The processing power and graphical proficiency of Dreamcast could change all that. With *Aero Dancing*, Japanese developer CRI is attempting to



Aero Dancing is primarily aimed at bringing hardcore flight simulation to the masses

strike a balance between the aerodynamic realism of aircraft flight and the gameplay possibilities offered by the console.

With the game close to completion, **Next Generation** met with CRI Director Tomonori Haba and Producer Keisuke Chiwata to talk about flying for fun.

Next Generation: *Aero Dancing*'s aircraft dynamics appear very realistic. How did you deal with the physics of the game?

Keisuke Chiwata: We built a specific engine for *Aero Dancing*. The team that built it did lots of research



with the Japanese air force. They attended numerous Blue Impulse [the Japanese equivalent of the Blue Angels] shows and visited their home base in Matsushima. We also had access to their flight simulator. The team started designing the standard T-4 aircraft, then had to create other planes with different physics. The team was advised throughout by air force pilots. They explained how an F-15 or an F-4 should fly and their peculiarities.

In a league of its own

NG: How does the game compare to air warfare titles such as Konami's *Flight Shooting* and Namco's *Ace Combat 3*?

KC: *Aero Dancing* is a full simulation game. In flight shooting games, the aircraft isn't flying, only destroying targets. For that reason, the plane's movements have been modified. There are no targets — your objective is to fly as well as possible. It really is a new genre. There are some similarities with PC flight sims, but that genre is dedicated to maniac players, and the flying is very complex. We kept the simulation concept and found a way



Many of the aerial acrobatics must be pulled off in tandem with the rest of your flight team. One mistake could lead to a disastrous accident

to make it playable by any level of player.

NG: How do you think console owners will react to games like this, which are typically more suited to PCs?

KC: Such a genre is rare for consoles, but last year sims such as *Densha de Go!* were released in Japan. We are gradually seeing more simulation games appear. But for consoles, simple commands are required, otherwise nobody will play them. The results also have to be realistic to attract players. Until now, it was difficult to make such realistic games for consoles, but Dreamcast suits this type of game.

NG: How simple is it to fly with the controllers?

KC: It is a little bit difficult! [Laughs]

Tomonori Haba: You use the analog stick and buttons. No keyboard is required. Players use the D-pad for flaps, air brakes, and landing gear, and the four buttons for the camera (view, smoke, throttle up, and throttle down). Trigger buttons are used for the left and right elevators.

KC: Compared to a regular flight shooting game, the commands are a little bit more complex. But we included a special training mode where players will learn how to use all the commands step by step.

Formation flying

NG: What about multiple players?

KC: Basically, you play alone, but it is possible to fly together in the four-player mode. The main objective there will be to fly in formation and to not be separated from the group. It's not a competition, but a four-player cooperation.

NG: How many planes are included?

KC: Players can select 11 planes plus some hidden ones. In the Blue Impulse mode, it's only possible to use the T-4. Some of the required moves can't be made by the other types of planes. But if you clear the whole stage, some extra features will become available.



The Japanese air force helped to make the flight model as accurate as possible

NG: How does progress work in the Blue Impulse mode?

KC: You start by learning simple commands. By mastering the moves, players will go to the next stage. Approximately 20 stages are offered in the Blue Impulse mode. The first 10 stages are dedicated to training. From the 11th stage, players will enter the Blue Impulse team and have to perform acrobatics, in formation and alone. The CPU will appraise the performances and give comments throughout the game.

TH: In the learning phase, players will fly a simple training T-4. After entering the Blue Impulse formation, players will pilot a T-4 in the colors of the team. Its performance will be slightly improved. The smoke, for example, will become available.

With CRI currently concentrating on refining the multiplayer formation-flying mode, the game is starting to get close to its final form. The graphical detail and realistic physics will definitely satisfy budding Blue Impulse wannabes — but **Next Generation** suspects that the wider Dreamcast community will be a tougher test of *Aero Dancing*'s mettle.



There are a total of 11 different planes for you to choose from, each with unique handling characteristics that must be mastered to succeed



Dead or Alive was a surprise hit, and deserved every bit of its success. **Dead or Alive 2** will have even more surprises.

FORMAT
Arcade (Naomi)
PUBLISHER
Sega
DEVELOPER
Sega
RELEASE DATE
Spring 1999
ORIGIN
Japan

DEAD OR ALIVE 2

Tecmo's sequel to its hit arcade fighter was shown recently in non-playable form, and it looks incredible. The graphics easily beat those in the *VF3* home conversion, and players may be able to trade out characters, not unlike SNK's *King of Fighters* series. Perhaps the most amazing thing seen in the demo, however, was players getting knocked off cliffs or through windows and then falling to the ground where the fight picks up again. Simply stunning so far.

Crazy Taxi



Believe it or not, riding in an actual San Francisco taxi is a lot like this

Take two parts *San Francisco Rush* and mix in a healthy dose of mission-based arcade objectives and you'll get Sega's newest Naomi board-based game, *Crazy Taxi*. The challenge is simple enough: Gather up passengers from the side of the street and then drive them to where they want to go. Depending on the length of the trip and the time it takes you to get there, you get paid some cash and given some extra time when you arrive. You repeat this cycle until you run out of time. Easy enough said, but in execution Sega has come up with one of the most original and fun Naomi titles yet.

The real beauty of the game comes from the sheer amount of options given to the player. You can choose to pick up customers who want short, medium, or long trips — then it's up to you to decide if you want to follow the directions they give you to get to their destination (which are, interestingly enough, real-world locations such as Tower Records). The map is open to you, and, much like *Rush*, there are plenty of short cuts for you to take, if you know the way. The regular driver might choose to stick to the road, but the wild driver who wants to make the most money possible can cut across parks, speed through parking garages, and even plunge into groups of pedestrians who will do their best to scatter out of the way as you run through them like Bruce Willis on a bad day. As players get more experienced and pick up on the layout of the city, they can go much farther in a

single game because they'll be able to utilize all of the short cuts available.

The city itself is absolutely huge and very reminiscent of San Francisco. In fact, one of the first fares you can pick up will lead you on a breathtaking high-speed jump course down a steep hillside. Unlike real life, however, you don't need to stop at the traffic lights, and oncoming traffic is more of an inconvenience than a danger. In fact, if you weave in and out of traffic or pull off some wild jumps, you stand to make even more money because bills will go flying out of your passenger's pocket.

The biggest problem *Crazy Taxi* faces right now in its home conversion is that things could get a bit boring with extended play if players can explore only the one city. However, Sega has an exceptional track record of adding extra modes into the home versions of their arcade games, so we should see some new options by the time this title comes home. Look for *Crazy Taxi* in the arcade soon and expect a home version for Dreamcast later in the year.



Zombie Revenge

Zombie Revenge is a touch of the familiar mixed with the awesome visuals that the Naomi board can provide. At its core, the game is just another beat-'em-up like *Final Fight*, but with the addition of the horror theme, some great interactive environments, and quite a bit of weapon play, it comes into its own.

Modeled after *Dynamite Deka* (*Die Hard Arcade* in the U.S.), *Zombie Revenge* is primarily a game where you do nothing other than beat up zombies. Of course, since this is much more horror-tinged than the beat-'em-up standard, the methods you have to deal with all of the creatures you find are much more gruesome. In addition to a wide assortment of guns



FORMAT
Arcade
PUBLISHER
Sega
DEVELOPER
In-house
RELEASE DATE
Out now (arcade)
ORIGIN
Japan



At first blush, it might look like *Resident Evil*, but *Zombie Revenge* is pure action from start to finish

(including the usual automatics and shotguns), you can also use lead pipes, an automatic drill (complete with juices spraying everywhere out of your victims), and some *Desperado*-style guitar cases that shoot. One of the earlier bosses even has pipes sticking out of him that can be grabbed and used against him.

Gameplay revolves around several missions that players must complete in a certain amount of time. Each "area" has its own time limit in which you must reach a predetermined area or kill a certain amount of enemies. Fail to make it and you die rather painfully, ending the game. Luckily, each area has multiple routes for you to take, and they aren't that long, so as long as you pay close attention to the time, you should be able to make it.

Taking its cue from such popular games as *Resident Evil*, however, this game features plenty of nasties that jump out at you when you least expect it. Of course, the plot is a touch derivative of Capcom's horror series as well. When it appears on Dreamcast later in the year, the inevitable comparisons will be drawn between *Zombie Revenge* and *Biohazard: Codename Veronica*, but they are very different games and will appeal to different audiences. Hopefully we'll see some additions that further distinguish the game, like modern support for two players or even some new areas and monsters. Either way, this game looks to be one of Sega's shining stars that demonstrate the real power of Naomi and Dreamcast.



The graphics are everything you could hope for, and the Dreamcast conversion should look every bit as good

SENRITSU BISHO
Koei Japan, known primarily for its historic simulations, has announced this strange *Resident Evil*-lookalike to be released in Japan later this year. It appears to take place in a haunted mansion, and players can play split-screen as they make their way through the house. The environments look very similar to *Resident Evil*, but it is unknown whether or not they are done in real-time or if they are merely pre-rendered.



Senritsu Bisho is a bit of a mystery — a horror-themed adventure from a company that makes historical sims?

Marvel Vs. Capcom

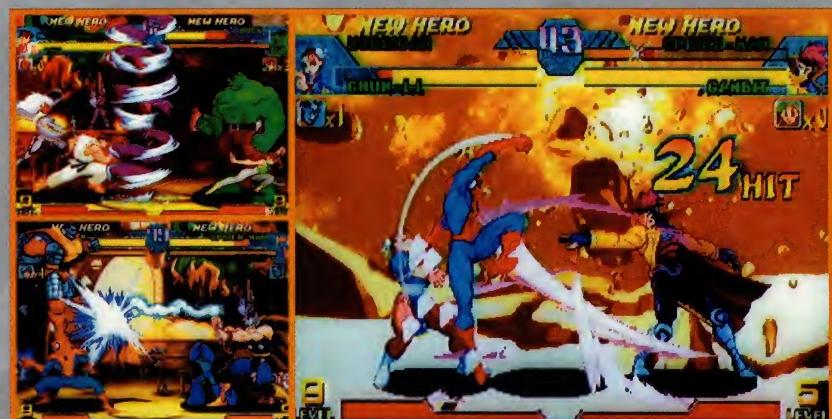
FORMAT
Dreamcast
PUBLISHER
Capcom
DEVELOPER
Capcom
RELEASE DATE
03/25/99 (Japan)
ORIGIN
Japan

CARRIER UPDATE

New screens of Jaleco's upcoming horror game *Carrier* have arrived. From these screens, it's apparent that the game is coming along nicely — "crisp" is the word that comes to mind. The plot involves the crew of a carrier infected by a parasite that turns them into zombies (which seem to have replaced ninjas as the game NPCs of choice). Be careful that you don't touch any zombies or you could get infected as well.



More zombies? We can see the ad campaigns now — "Dreamcast: the system of choice for the undead..."



Capcom has pulled the heroes out of many of its marquee series to take on Marvel's best heroes and villains

Capcom has long been the champion of 2D fighting games in the arcade. Unfortunately, with the RAM limitations of PlayStation, its home conversions have never been arcade-perfect. In fact, many of its games fared better on Saturn because of its larger amount of RAM, although they never really appeared in the States. Its newest CPS2 game, *Marvel Vs. Capcom*, is so animation-intensive that it took the full 16 Megas of Dreamcast to make it happen at home — and it could be Capcom's finest arcade-to-home conversion yet.

As with the previous two games in the Vs. series, *Marvel Vs. Capcom* features an enhanced version of the *Street Fighter* fighting system that includes lots of spectacular effects, plenty of obnoxious juggle combos, and the ability to choose two characters to fight with and change between them at will. *Marvel Vs. Capcom* takes all of these elements a step further than their predecessors to make it even more exciting. This time, the Marvel Superheroes take on a cast of assorted Capcom characters instead of the usual cast of Street Fighters. Characters like Morrigan, Rockman (Megaman in the U.S.), Strider, and Captain Commando all have been given a wide selection of moves so that they can duke it out with the likes of Venom, Spider-Man, Captain America, and the Hulk, among others. Now there are also tertiary



You can call in characters such as Sir Graham to help you out in a pinch

characters from both universes to choose from that you can call in for super-powered special moves during the match. Combos can link together a huge number of hits, and sometimes there is so much going on that it's hard to see what's really happening. In fact, while the gameplay is as solid as any Capcom arcade fighter, SF purists may be turned off by the sheer amount of chaos that can occur during a single match.

It seems likely that Capcom will bring this game over to the U.S. as one of its first launch titles later this year. Along with *Power Stone* (see review, page 22) it looks to be on the right track in giving fighting-game fans a good reason to look at Dreamcast as the system of choice this Christmas.



At certain points in the match, you can use both of your characters at once for an effects-laden super move



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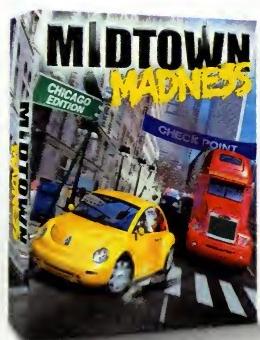
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Microsoft

Star Wars: Episode I Racer Nintendo 64/PC **Anachronox** PC

Vampire: The Masquerade PC **Deus Ex** PC **Savage Quest** Arcade/PC

ALPHAS

Our monthly report from the front line of games in development



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The big picture... Well, we could be referring to *Star Wars: Episode I*. The film set to stun audiences nationwide May 19 has spawned two games covered in this issue. Or perhaps we're referring to one man's decision to walk away from *Episode I*. Ray Gresko did, and his team of hotshots at Nihilistic may do for RPGs what Gresko's *Jedi Knight* did for first-person shooters. But then again, the big picture could mean looking at Ion Storm's games, not just their emails. Or maybe we mean Rockstar's new approach to console games... So which is it? All of the above, and more, can be found in the following pages

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ION STORM

Dogged by software delays, and scarred by staff losses and accusations of mismanagement, highflying developer Ion Storm has come down to earth with a bump. Is the company that spends millions when thousands will suffice all flash and no dash? Can "John Romero's *Daikatana*" save the day? In Dallas, it's make or break time...



From its lofty perch atop the Texas Commerce Building in Dallas, Ion Storm can feel the thunderheads building on the horizon

In Texas, money speaks loudly, and few missed the noise Ion Storm made when it leased 22,000 square feet of penthouse space in the Texas Commerce Building — an impressive habitat for a business usually found in bland office parks. But then Ion Storm is hardly your typical game developer.

Its story is an intriguing one. And its most recent developments have come to light in the form of a scathing and exhaustive report published in the local newspaper. The *Dallas Observer* suggests the

the company to set the record straight, though. Its current involvement in legal proceedings means it can't, or won't, discuss details in the case. "I think the rudder on this ship had some holes in it," admits VP of Marketing Mike Breslin. "But now we've patched them, and I think our games are going to speak for themselves."

The games in question include the infamously delayed *Daikatana*, a title that was originally scheduled for release in March 1998. When quizzed about why it has taken so long, Breslin is on the defensive. "Look at

we have to live with. The company is running better now than it was a year ago, and we're refocusing our energies — everything is about our games."

Ion's immaculately sculpted working environment is a conspicuously styled amalgam of white walls and custom-designed metal cubicles enclosed in an enormous glass dome. As **Next Generation** walks around, it's clear that work is at full pace on *Daikatana*, the project that suffered most in light of recent events when eight of its key players walked out

Recent troubles have had Ion Storm's most cynical detractors rubbernecking with the kind of glee usually reserved for the owner of a broken-down Ferrari stranded at the side of the road

company has gone clean off the rails, spending \$26 million of Eidos' money in the process. If the paper's divulgence of intimate details concerning reckless spending, incessant management squabbles, and staff departures is taken at face value, then it shows how money, greed, and egos as tall as the skyscrapers that contain them can eclipse and undermine the creative integrity of a company. Ion Storm maintains the article is unfair and biased and is currently engaged in a lawsuit with the paper.

While its consciously hyped überdeveloper profile may have garnered it valuable column inches in respected journals such as *Time*, *Newsweek*, and *Wired*, its recent troubles have had its most cynical detractors (competing developers, say) rubbernecking with the kind of glee usually reserved for the owner of a broken-down Ferrari stranded at the side of the road.

Eager to put a on a brave face, Eidos has flown a bevy of journalists (including **Next Generation**) to Dallas. This is hardly a chance for



Unreal — that took three years. Look at *Half-Life* — that took two and a half years," he says. "Why didn't [Epic and Valve] get the same treatment? Because they didn't come out of the box saying how good they were. That's something

(joining ex-Ion Stormer Mike Wilson down the road at rival G.O.D.). With replacements quickly found, though, there's a renewed commitment to finishing the troubled title — something, no doubt, that Eidos would like to see done as quickly as possible. As if to show it means business, the company's *Defender*, *Tekken 3*, and *Scramble* arcade machines are all switched off, each bearing an ominous warning from the management that they should be left off, too.

But *Daikatana* isn't the only reason **Next Generation** is visiting Dallas. Two other highly anticipated titles on Ion Storm's roster — the cinematic RPG *Anachronox* as well as Warren Spector's *Deus Ex* — are also clawing for attention and are scheduled to appear later in the year. The potential quality of both is high, and if Ion Storm can focus its energies on ensuring that the games are strong as they have the potential to be, then the company could easily find that its tarnished reputation will be quickly forgotten. Stranger things have happened.

DEUS EX

Behind the scandal, lawsuits, and opprobrium surrounding Ion Storm, something quite unusual is taking shape



Many of the game's locales are meticulously modeled after their real-life counterparts

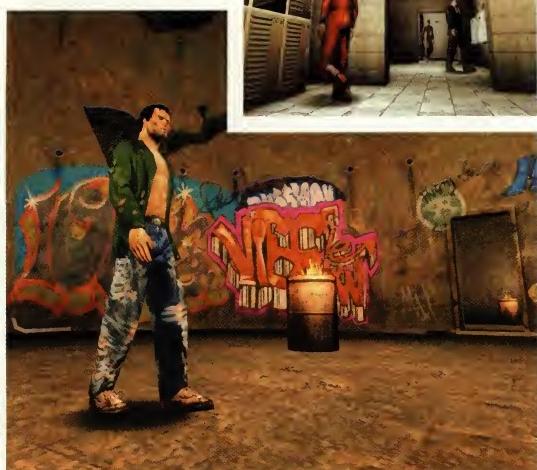
While the rest of Ion Storm works furiously to get *Daikatana* out, Warren Spector and his team have been working away behind the scenes on a game that seeks to redefine the role-playing genre. *Deus Ex* is a "real-world role-playing game" set some 50 years in the future. The world is at the mercy of terrorists, and the global economy is close to collapse. As an anti-terrorist agent, the player follows clues around the world to discover who or what is behind the sinister conspiracy that threatens to bring the world to its knees. Accurately-modeled real-world locations feature in the massive number of environments that must be visited over the course of the game, including areas that are instantly recognizable parts of Paris and New York.

With use of the much-admired *Unreal* engine, interaction with objects, environments, and people is being made as realistic as possible — conversation strings are particularly well-implemented — but the game also aims to provide moments of dramatic action to rank alongside shooters such as *Half-Life*. To



The *Unreal* engine (and robust level-editing tools) lends itself to complex environments, and the design team is taking full advantage

The game also aims to provide moments of dramatic action to rank alongside shooters such as *Half-Life*



Creator Warren Spector is billing *Deus Ex* as a "real-world role-playing game" in which players can choose their own style of play

this end, a fine selection of weapons and equipment will be included for our destructive pleasure. However, since this is primarily a RPG, the player will have to make very important decisions about how they intend to play the game. For instance, how about specializing in heavy weapons? How about stealth, or lockpicking, or sniping? Each problem or puzzle that the player encounters can be dealt with in a number of ways depending upon the player's skills, abilities, and inventory choices. Knock down the locked door, or try to pick the lock? Blow it open blithely with the shotgun, or use augmented hearing to find out if there's anyone around?

Deus Ex places such decisions firmly at the feet of the player, and in doing so sets a bold precedent for the first-person shooter, adding an element of decision-making not seen since *System Shock*. Ion Storm has both *Daikatana* and *Anachronox* to release before then — but in many ways, *Deus Ex* is one of the most exciting projects currently in development for the PC.

FORMAT
PC

PUBLISHER
Eidos

DEVELOPER
Ion Storm

RELEASE DATE
Winter 1999

ORIGIN
U.S.

DAIKATANA

After delays and controversy, Ion Storm's flagship starts to take shape

FORMAT
PC

PUBLISHER
Eidos

DEVELOPER
Ion Storm

RELEASE DATE
June

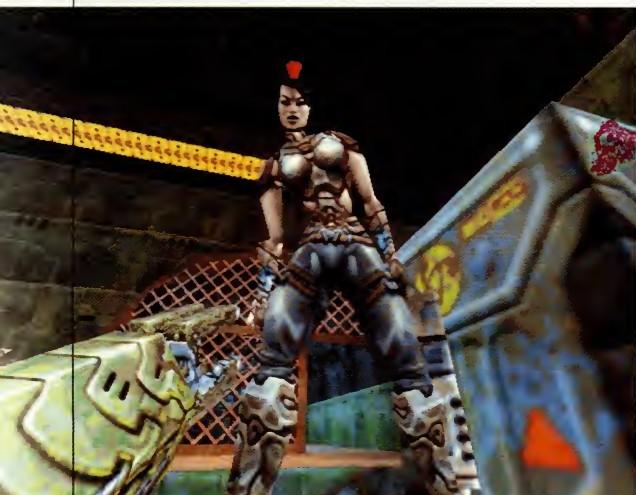
ORIGIN
U.S.

John Romero chuckles uncontrollably as he watches his creation presented on a big screen in Ion Storm's plush, corporate-friendly auditorium. He's laughing because an unfeasibly large number of bad guys are on the tail of his colleague demonstrating the game. He squeals with delight as members of the army of muscle-bound foes drop one by one, piece by piece, as a torrent of gunfire is unleashed upon them. And he takes further pleasure from looking on as blood splatters on the walls

and body parts bounce around the floor. Everyone else observes from the comfort of black leather armchairs — perhaps wondering if Romero's spent a little too much time running around in dark corridors with guns.

Despite the fact that the lackluster C&C clone *Dominion* was Ion Storm's first

Romero's project received a leg up in the form of the switch to Id's beefier *Quake II* code, but progress hasn't been smooth since



The *Quake II* engine environments are a cut above *Quake II* — is that good enough?



INSIDE THE MIND OF JOHN ROMERO

GQ called him "the Quentin Tarantino of computer game megaviolence," while *Time* says he "wears the mantle of pop-culture godhood with aplomb." He drives a yellow Ferrari Testarossa modified with a nitrous system to growl at a frightening boohp. Whatever one says about John Romero, one can't ignore that, prior to the *Dallas Observer* article anyway, he was as hot as a game designer gets in the U.S. While the most important game of his career muscles back into the limelight, NG cornered him for a chat.

Next Generation: *Doom* was created by a small team, for not a huge amount of money. How does *Daikatana* differ?

John Romero: It takes a lot of people and it takes a lot of time. To me, it's mostly the time because everyone is constantly trying to stay ahead of each other. The big difference between working on a project like *Doom* and one like *Daikatana* is that the team is bigger and that costs. And, of course, it has to look good. I mean, everybody is expecting *Forsaken*-type flare effects, and alpha-blended this, that, and the other. And that has its costs, too.

NG: But do you think that all this investment is really adding to gameplay experience?

JR: Well, there's so much ground that's been covered already — everyone

work still under way, it's a little early to pass judgment just yet. Of course, a bullish Romero is confident that it will live up to expectations: "You know, people have been blown away by *Half-Life* here," he concedes. "It's a totally awesome game, but we're really confident that our game is better. There's a strong storyline, great monsters, tons of great weapons, and cool sidekicks that go through the game with you."

The single-player game encompasses four self-contained worlds — each set in its own time period that is reflected in the design of the individual environments, monsters, and (of course) weapons. You play through the game as Hiro Miyamoto (no relation), a descendant of a famed swordmaster who forged the original daikatana sword back in the 16th century. The quest involves hunting through each time period for the fabled sword with the help of two sidekick characters, Mikiko and Superfly, who assist you through the game. However, you'll need to watch their backs, too.

During **Next Generation**'s visit, only the Deathmatch version of *Daikatana* was made playable, and work is progressing quickly on a demo to be made available soon. Deathmatch *Daikatana* — at least, the version **NG** played — is enjoyable if not sufficiently different from its competitors. It moves blindingly fast, the weapons are impressive enough, and the planned incorporation of weather effects such as fog and rain will provide new elements for players to deal with. But only time will tell if it has the magic recipe that will keep the networks buzzing.

It's just possible that *Daikatana*'s strongest draw will be its single-player



When the game is done, star Hiro Miyamoto will travel through time — if only he could do that now

is trying to push the boundaries. What's next? There are usually incremental steps once the revolution has happened. I don't think that you can really have a revolutionary thing happen unless it's defining another genre. In this genre, the revolution has pretty much happened — things are just getting more clearly defined.

NG: So are you eager to lead the next revolution, then?

JR: Yeah, definitely. I'm always thinking about what we can do next. I have cool ideas for what I want to do with the single-player genre. You know, I still love the shooter. I still love going and destroying shit into pieces. But how can we do that in a cooler way? I have an idea for having a replayable single-player game where you finish it and then you play it again to see how it's gonna change. For it to work, you need to have to multiple



game — a race in which titles such as *Quake II*, *Unreal*, and *Half-Life* have set a challenging pace. The four time zones — which range from darkest medieval Norway to post-apocalyptic San Francisco — are already looking well realized, with superb atmospheric effects, not to mention a total of 64 gruesome foes and 32 devastating weapons (which include the beautifully rendered Eye of Zeus as well as the metamaser, a "BFG-type fragmaster"). All this, despite these numbers having been scaled down from those in its original blueprint.

The first-person shoot-'em-up is an intensely competitive arena, and no one knows this more than John Romero as he guides his designers through the final stages of the game's completion. Expect Ion Storm's big hope to make a prominent appearance in L.A. at this year's E3 show and to hit shelves later in the summer.

NG



New effects such as fog, rain, and plasma perk up the graphics and add to gameplay

starting points within the story — different levels, basically — and different story paths that the player can choose to go through. You'd have to have a ton of levels — 50, minimum.

NG: Is this your next project?

JR: This is what I'm planning on doing after *Daikatana* to push the genre a little bit forward into some other new area and see if it takes or not. The player starts the game and chooses what character they want to be. The character is kind of

ANACHRONOX

The third leg in Ion Storm's triad may turn out to be its most underrated



Are pretty environments and a deep storyline enough to lure gamers?

While Romero's visceral slugfest represents a logical progression for the first-person shooter, Anachronox is set to blow apart the conventions of another established PC genre — the role-playing game. The brainchild of Tom Hall, one of the founders of id software, Ion's second release is an ambitious fusion of PC technology and console-style gaming — and it's already looking rather special.

Taking its inspiration from Square Soft's well-loved SNES title *Chrono Trigger* — one of Hall's (and Romero's) favorite games — Anachronox is a fully cinematic, character-driven RPG, complete with turn-based battles and a truly enormous world to explore. Unlike console examples, though, *Anachronox* builds a convincing world from the realtime 3D environments more synonymous with first-person PC games. And a simple demonstration of how its flexible camera system works is enough to raise the eyebrows of the most cynical of onlookers.

Obviously inspired also by *Final Fantasy VII*'s cinematic elegance, Hall's game goes one better by employing realtime environments throughout so that there's no visible jarring between the in-game sequences and the breathtakingly choreographed cut scenes. "For me, a constant sense of reality is important," reveals Hall. "If you're in a game and you see this great rendered cinematic and all of a sudden you're in a tile game, there's



Mix console RPG elements and story with high-tech, PC 3D game control? If it looks this good, heck, it just might work

this jarring point where you don't feel you're in an immersive reality. So we've designed the engine to be good enough to handle the cinematics as well as the core gameplay."

But thankfully, *Anachronox* will have more than just technology as a selling point. Equally impressive is the work that's gone into developing the storyline and cast of about 450 non-player characters

tied to a different location in the game — their hometown or whatever. So you move along, go through some levels, meet people who give you information, and you'll reach points where you choose where you want to go. For example, are you gonna decide to go down into a dungeon or over a bridge? Your path through the game completely changes depending on which direction you go in. If you decide to go over the bridge, you won't see the dungeon level unless you replay the game from the start.

NG: What does John Romero spend most days doing?

JR: The first thing I do when I come in is answer all my emails because I'm responsible for every aspect of the design from the programming to the map design to the art — it's decision-making all day long. I don't get too immersed in the scheduling — what I'm concerned with is matters like: Is this weapon doing what it should? Is it animated well enough? Do the maps flow correctly? Someone else does scheduling.

NG: And schedules must be a sore point at the moment...

JR: Changing over to the *Quake II* engine is pretty much what delayed *Daikatana*. We thought it would be an easy change, but it wasn't, because Carmack had been rewriting everything, and nothing that we created other than the monsters — the actual models — could even be used. So we had





The game is currently set to have a huge cast, with more than 400 NPCs

(NPCs) that inhabit the galaxy and the 100 levels. Hall concedes that this is where his admiration for Japanese RPGs comes in. "The console RPGs are a big influence from their strong focus on story. For instance, at one point in *Chrono Trigger* you're sitting around with your friends and they're talking about the theme of regret. Just the fact that that characters could be talking about something as interesting and subtle as a regret in game — instead of clubbing each other over the head and taking their gold — is a novel approach. It makes the fighting and adventuring and stuff so much deeper when there's a reason for what you're doing."

Battles are being tackled intelligently, too — and particularly in light of the derision that's often leveled at *Final Fantasy*'s random and irritatingly frequent bouts. Instead, Hall and his team are concentrating on a more contextual system (again, like *Chrono Trigger*) so the player won't be tripping over invisible



Although the anime influence is clear, the character designs are squarely within Western archetypes

to start pretty much from scratch. The other big difference is working with people that have not worked on 3D games before.

NG: Certainly, having eight people choose to leave the team can't have helped...

JR: When you have people leave, it takes time to get new people up to speed. But in actual fact, the people that did leave weren't working hard anyway, and now we have people that are really keen. Those that stayed have been amazed at the progress we've made in the past few months, though, and there's none of the negativity that we had before.

NG: In light of the recent controversy, do you wish that you'd kept a lower profile?

points every five feet, triggering off unwanted conflicts. The designers are even planning to ship the game with the custom tools that it's using to create the game, thereby enabling a net-based community of potential fans to tinker around with their own scenarios — in a fitting nod to the D.I.Y. wad culture inspired by *Doom*.

"FF was really awesome and dramatic," concludes Hall, "and there are certainly some memorable emotional points. But I want real drama to come out of this, and it's going to be an interesting experiment to see if people can get really emotional about a videogame."

NG



Within the game, the titular "Anachronox" is a giant space station, now fallen into disrepair and home to the scum of the galaxy

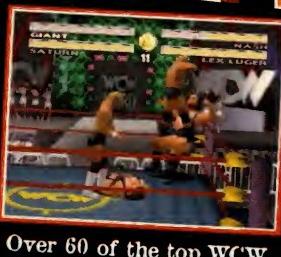
JR: We wanted to make sure that people knew Ion Storm — we haven't tried to push me. The press has always been asking to talk to me and take pictures. They're interested in it. The games industry is asking for me, and obviously I'm not gonna say, "No! Stay away!" The higher up you are, the more people are likely to want to take you down. It doesn't matter if you're the most noble, saintly person on the planet. The fact is that people are gonna hate you more than anything.

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VAMPIRE: THE MASQUERADE – REDEMPTION

Formed by top talent from LucasArts and Rogue Entertainment, is Nihilistic the next super-developer for the PC? The answer lies with this groundbreaking RPG



Nihilistic President and CEO Ray Gresko had it good — really good. The lead programmer and co-designer of both *Dark Forces* and *Jedi Knight* had gone on to work on an unannounced *Star Wars: Episode I* game. Then he gave it all up to form his own company.

The \$64,000 question? Why?

"For most of us," Gresko says, "it was just a decision to have a little bit more control over what we were doing, both in creative freedom and being able to work with people we like to work with."

For Gresko, creative freedom meant developing a RPG, something LucasArts has never published. "It was pitched," Gresko says, turning momentarily stern. "That's all I can say."

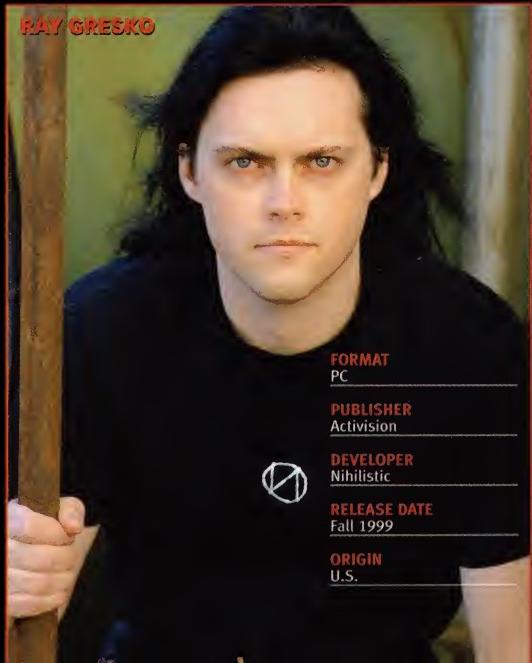
But there's plenty more to say about the people he likes working with, starting with Nihilistic Vice President Rob Huebner. Huebner worked on *Descent* and *Descent 2*, then worked with Gresko as a senior programmer on *Jedi Knight*. After *Jedi*, he joined Blizzard to work on



The main character models (below) boast upward of 800 polygons



This 3D hardware-only engine draws a rich world easily on par with that of *Quake II*



FORMAT
PC

PUBLISHER
Activision

DEVELOPER
Nihilistic

RELEASE DATE
Fall 1999

ORIGIN
U.S.



StarCraft before leaving to form Nihilistic in March 1998.

And the impressive résumés don't end there — the rest of Nihilistic's 11-person staff also reads like the "Who's Who" of PC game developers. Steve Tietze, director of world design for Nihilistic, came from Rogue Entertainment, where he designed many levels for *Quake Mission Pack: Dissolution of Eternity*, and *Quake II Mission Pack: Ground Zero*. Level designer Steve Thoms was also a designer on *Ground Zero*. Lead artist Maarten Kraaijvanger was lead artist on 3DO's *Requiem*, along with Nihilistic artist Yujin Kiem. Programmers Yves Borckmans and Ingar Shu were respectively on projects such as *Jedi Knight* and *Indiana Jones and the*

The roster of Nihilistic's 11-person staff reads like the "Who's Who" of PC game developers

Infernal Machine before joining Gresko's bunch, along with fellow former LucasArts 3D art technician Anthony Chiang, who left work on *Force Commander* to work at Nihilistic.

But there's another attraction (aside from greater fiscal returns) which drew these talents together — a small team environment. Everyone at Nihilistic feels that they have more control over their



The whole team (above) and poking his head out the busted window (below, center) is Nihilistic VP Rob Huebner. Huebner's programming credits include *Descent*, *Descent 2*, *Jedi Knight*, and *StarCraft*

own destiny. "With 11 people working on a project," says Huebner, "everyone has to be responsible for their part. There is no one to pick up the slack."

"Everyone is really seen and respected here. You're not artist number 60," chimes in Tietze, "so you know, you've got to turn in your work.."

Gresko and Huebner initially pitched the design document to several publishers, including Activision. "We first spoke to Activision and a couple of others," says Huebner, "and three weeks later, we were signed up and starting."

Nihilistic liked the way Activision had handled its marketing, and the endorsement of Id's John Carmack also helped bring Nihilistic into the Activision fold. But ultimately, it was White Wolf's *Vampire* license that brought both companies together.

"Our RPG design was pretty dark and interesting, although it was more futuristic," says Gresko, "but they said, 'Well, we have *Vampire*,' and so we said, 'That will work, too.'"

Gresko's futuristic storyline went to the back burner, and for just over a year the company has been behind *Vampire*.

In its simplest form, *Vampire* is a party-based, fully 3D, realtime RPG. Players can expand their party up to four characters and control them via a point-and-click interface.

The story is centered around the main character Christof, an over-the-top Church Knight from 12th century Eastern Europe, whose faith fails him when he is "embraced" by a female vampire. Over an 800-year period, Christof and his party become embroiled in wars among different vampire clans, and the ultimate battle to vanquish an evil vampire lord. As with all RPGs, your characters (from multiple vampire clans) progress, gaining armor and the like. But there's more to it than that.

"You're a vampire," says Gresko, "trying to fight for the remaining strands



This veteran team of developers will have the realtime combat animating seamlessly



Don't be fooled by the strong third-person camera — the gameplay is far more akin to *Diablo* than *Tomb Raider*





of your humanity." And as a vampire, players will need to feed on human blood, creating a direct conflict.

"You actually have to make correct decisions," Gresko says, "if you want to maintain your humanity. Your decisions actually have an impact on the world. It's something we call true role playing. There is definite feedback that actually affects the story."

Combat will be in realtime, but Gresko explains that it will be more elegant than *Diablo*, due largely to better AI, among other things. "There are more interesting things you can do with your character," Gresko says. "You could stake another character and immobilize him. You could use a discipline, which is a vampire spell kind of thing to cause damage to a character. You could turn

"The license is not cheesy, like Bela Lugosi vampire stuff. This is modern and edgy"

Ray Gresko, president and CEO, Nihilistic Software

your hands into claws and cut someone's head off, really utilizing these vampire gifts for that kind of combat."

The game itself is broken into two halves and four hub cities. The first half, set in the Dark Ages, takes place in Vienna and Prague, and the modern-day second half is set in London and New York. When players complete the



STEVE TIETZE and MAARTEN KRAAIJVANGER

required objectives in one city, they advance to the next.

"Prague is really an excellent location. Even the real world stuff is macabre beyond belief," says Gresko. "The Northern Quarter is this area with an overflowing graveyard. They just ran out of room, and there are stones and bodies buried on top of one another."

To instill each city with a unique gothic look, the company contracted Peter Chan to create some conceptual art. Chan is a leading conceptual artist whose work in games spans LucasArts projects from *Day of the Tentacle* to *Grim Fandango*. His film work includes concept art for *Star Wars: Episode I* and



Nihilistic is doing more than its fair share to bring 3D world architecture to new heights



set design for *Antz*. But the company didn't stop there with Hollywood talent. Composer Kevin Manthei, who contributed music to *Scream 2* and *The Faculty* as well as several games, is writing a score for the Dark Ages. To maximize the story and potential of the license, Gresko has partnered with author Daniel Greenberg, one of the best writers of White Wolf's *Vampire* series, to co-write the story and dialogue.

While White Wolf's *Vampire* may not be as widespread as *Star Wars*, it is the second most popular pen-and-paper RPG behind *Advanced Dungeons and Dragons*.

"The license is not cheesy, like Bela Lugosi vampire stuff," Gresko insists. "This is modern and edgy, using some of the traditional vampire myth."

And while the *Star Wars* universe consists of a total of four films, Huebner suggests there have been 50 odd *Vampire* books to draw off, from as many as 30 or 40 authors. But those unfamiliar with White Wolf's *Vampire* need not worry. The game has been designed to slowly reveal the nature of the universe. Because Christof knows nothing about vampires as the game begins, the player will discover the vampire world and all its mysterious clans as the adventure unfolds.

What's perhaps most impressive when discussing *Vampire* with Gresko is the way the depth of story and the characters continually resurface in discussion of game design. Unsurprising, given the wealth of *Vampire* source material, a game which encourages the creation of elaborate background stories for its players' characters — not to mention the deep-rooted romanticism inherent in the vampire legend itself.

The Vampire engine has been designed from scratch, a state of the art 3D renderer that will require hardware acceleration. While Nihilistic built the engine themselves, a *Quake* level design tool was licensed from Id and then modified. Since the designers were already familiar with the tools, they were able to quickly begin piecing together levels. The engine also enables scripted in-game cut scenes, but several will be pre-rendered. Multiplayer option will include both cooperative, and a notable hunter-hunted mode, in which vampires and vampire hunters do battle.

But more notable is the character status window where the characters'



Of the 115 characters in the game, seven are party characters, and 30 are types of monsters. Many others are NPCs and several are vampire bosses



The player can gain the powers of 14 vampire disciplines. There will be multiple spells per discipline, including the ability to hide in shadows, turn to mist, summon beasts, instill fear, and grow claws

models are animated in realtime. "They're used to bring the characters more to life than some static portrait," Gresko says. "You can see the guy's eyes move, they blink and his whole expression can be changed. There are a bunch of different states they indicate through either lighting effects or their actual expressions."

And perhaps cribbing a bit from the *Final Fantasy* series, "There's also a love interest," admits Gresko. "She's another party member that's involved pretty heavily in what's going on."

So is there a way to turn our heroes back into humans?

"Well," Gresko sighs, "I'll have to leave that one open."

NC



The status window in this interface displays the player's two party members in realtime, reflecting the mood and health of the characters

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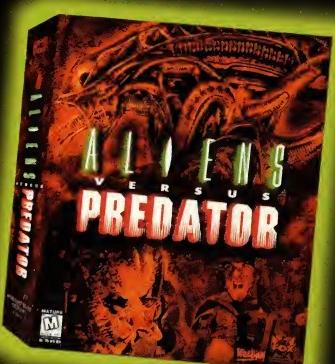
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ROCKSTAR GAMES

Is there more than just a new look to Take 2's console division?



The chaotic sounds of New York City street traffic occasionally slip through the open window into the office Rockstar President Sam Houser shares with COO Terry Donovan. Houser, a transplanted Londoner, sits comfortably in his Aeron and smokes as he discusses Rockstar, Take 2 Interactive's new console-game-only label.

"I feel very strongly," Houser says, "that videogames have become a proper and viable entertainment platform, but I don't see a lot of people treating [them] as such or acting as such, apart from the consumers."

Houser says that games are fighting for the same disposable income that could go toward new music CDs or a movie ticket but that current marketing and packaging is hampering the full acceptance of games as a legitimate and — more importantly, for Houser — hip form of entertainment.

"There are some wonderfully packaged games out there," Houser says, "but in terms of the kind of games we are looking to do, they still say 'toy' or 'toy technology.' Not necessarily, 'Wow, I've just bought the new Wu Tang

"Videogames have become a proper and viable entertainment platform, but I don't see a lot of people treating [them] as such"

Sam Houser, president, Rockstar Games

album' — or 'I've just gone to see the new John Woo movie,' — and I just got a copy of *Grand Theft Auto 2*."

Houser's goal: to bring the essence of a music entertainment company to videogames. "A lot of us [at Rockstar] have a background predominantly in the record business," he says. "We think we could have some fun making [a game company] a little more like an entertainment company. With the

WILD METAL COUNTRY

FORMAT
Dreamcast

First seen in NG 51 in the DMA Design profile as a PC game, this Dreamcast launch title puts players in control of a tank on a quest to collect eight Power Cores spread across an extensive battlefield. Boasting a strong physics engine, a variety of tanks and terrain, and full online support for the Dreamcast modem, tank deathmatching may return to glory for the first time since *Combat for Atari 2600*



MONSTER TRUCK MADNESS 64

FORMAT
Nintendo 64

Developer Edge of Reality is bringing Microsoft's Monster Truck Madness to Nintendo 64. Edge of Reality was founded by *Turok* Lead Engine Programmer Rob Cohen and *Pilotwings* programmer Mike Panoff, two men who know N64 from the inside out. These monsters will be unleashed this June



emerging technology, there are so many new ways you can incorporate music and much more advanced visuals. That really was the driving force behind what the Rockstar name is going to become."

Rockstar's ambitious plans include street-level marketing, complete with nightclub and concert promotions. (Both Houser and Donovan ran nightclubs in the U.K.) The label's charter also calls for cutting-edge branding complete with a clothing line, which is "designed to establish a gaming lifestyle apart from the gaudy futuristic logos and sterile marketing techniques of our competitors."

Nightclubs, licensed clothing: if this stuff worked, wouldn't someone else

beyond the traditional roots," he explains. "The core community is very strong and needs to be respected, but I don't think they're going to feel bad about being made to feel cool."

And what about the games? Considering prior Take 2 console releases, appealing to gamers may in itself be enough work for Rockstar without the marketing focus. Notable Take 2 failures include *Iron and Blood*, the *D&D*-based PlayStation fighting game, and *Ripper*. Many of its recent releases were only possible thanks to the purchase of BMG Interactive (a deal that included Houser himself, who was

Considering prior Take 2 releases, appealing to gamers may in itself be enough work for Rockstar

already be doing it? Do gamers really care if a publisher also sponsors an evening at a nightclub in New York once a week?

Houser says he understands the dangers of trying to be too cool. "You can end up finding yourself out of the market by being too clever for your own good," he admits. "We want to make packages that still have commercial appeal — but like a record cover, put something on it that makes it stand out from the rest."

And Donovan, who's spearheading the marketing efforts, sums it up nicely. "You can spread the power of the game



Can young, tough, music-industry veterans Terry Donovan (left) and Sam Houser bring "cool kid" culture to the game market?

formerly development director with BMG Europe.) Houser stresses that the acquisition of BMG put Take 2 in the console business in a healthy way with strong employees and the cult hit *Grand Theft Auto*. Still, in a time of industry consolidation, a new label is risky. Given the troubles that even veterans such as Interplay has had, how will Rockstar compete?

"Just coming out with a sports lineup or our own platform game ain't enough. We want to try and do things that nobody else can do"

Sam Houser

"Rather than as a company release 40 titles a year," says Houser, "we'll probably release 10 titles, but we'll make sure that every title has got as much love, energy, and passion, or whatever you want to call it, in there."

Sure enough, Rockstar has a total of nine games in development. But the company isn't focusing on copycat products. "Just coming out with a sports lineup or our own platform game ain't enough," Houser declares. "There are too many titles, and there are too many really big companies doing it. We want to try and do things, irrespective of size, that nobody else can do."

The first two Rockstar-branded games will be ready in June, in the form of *Grand Theft Auto London* and *Monster Truck Madness 64*. *GTA London*

will be the first-ever mission pack for the PlayStation, retailing for roughly \$20. The actual sequel, *Grand Theft Auto 2*, will be available on PlayStation in either October or November, along with *Earthworm Jim 3D*. Two PlayStation titles for early 2000 include a skateboarding game, *Thrasher: Skate and Destroy*, and *Kiss Psycho Circus*, an action/adventure game featuring none other than the face-painted rock stars of yore. The latter game, for anyone who's followed the continuing Ian Storm saga, is being developed by none other than the defectors from the *Daikatana* team.

And Dreamcast titles? "The game that we'll have available for Dreamcast launch," says Houser, "will be *Wild Metal Country* from DMA Design." Although excited about Dreamcast in general, Houser is really pleased with the difference the machine's networking features can make; *Wild Metal* is a tank game designed specifically for large multiplayer battlefields. Houser also intimates that *Max Payne* will come for Dreamcast. Like *Kiss*, this third-person, 3D shooter is being developed and published for PC by Take 2 affiliate Gathering of Developers.

But, Houser says, the company isn't stopping there. "We'll always be involved with as many consoles we can." *Duke Nukem 3000* is rumored for PlayStation 2.

But that's at least a year down the

GRAND THEFT AUTO: LONDON

FORMAT
PlayStation

It's back to the underworld crime scene for more mission-based car-jacking, only now it's London, 1969. From Austin Powers-style convertibles painted with the Union Jack to missile-loaded buses parked outside Buckingham Palace, there are plenty of London landmarks and '60s-era vehicles in *Grand Theft Auto: London*. Available this June, the game will be the first-ever mission pack for the PlayStation



Rockstar has partnered with *Thrasher* magazine to produce *Thrasher: Skate and Destroy*, a PlayStation skateboard game that reflects the authentic nature and culture of the sport. Still very early in development, *Thrasher: S&D* will arrive soon after the turn of century



**EARTHWORM JIM 3D**

FORMAT

Nintendo 64, PlayStation

It's been slow going on this title from Scotland's VIS Interactive, and perhaps that's why Interplay was willing to sell the rights to Take 2. We always figured Jim for a rock star, but aside from the strange pig-surfing image to the left, Jim seems to be doing a lot of standing around in these screenshots. Nonetheless, Rockstar says it will be ready this fall

road. Currently, some of Rockstar's philosophy has already made its way into the *Grand Theft Auto: London* mission pack. "In terms of audio content," Donovan says, "we think of how we want the game to sound, then go backward from that and find the most appropriate thing. You don't need to have a big, new artist to sell a game, because the games are bigger than the

"We managed to get *Thrasher* magazine, which everyone previously had thought was impossible"

Sam Houser

artists in a lot of ways, creatively and financially."

To this end, Donovan worked a deal with the U.K.'s Trojan Records, securing excellent ska and lounge easy-listening music for *GTA London* that perfectly captures the game's late-'60s setting.

Another title that has the Rockstar team very excited is *Thrasher: Skate and Destroy*. "We managed to get *Thrasher* magazine," says Houser, "which everyone previously had thought was impossible, because they're so real about skateboarding."

Houser is convinced that because his staff has strong links to the skate scene (which enabled them to bring *Thrasher* on board), their game will capture that culture in ways Electronic

Arts' *Street Sk8ter* or Activision's *Tony Hawk Skateboarding* can't.

"I don't mean to be cocky," Houser says, "but I've seen the other games, and ours really is the most compelling. The whole basis of skateboarding is the underground community. Certain companies can work with the underground and be the voice — and it's a huge subculture audience — but others can't."

It might be easy to sit back and call Houser's group a bunch of poseurs who've only managed to ship one game successfully (*GTA*), but it's worth noting that this group of self-starters has already launched successful record labels, nightclubs, skateboard lines, and, yes, even a game studio. (Jeronimo Barrera, co-founder of Blam!, is producing several titles for Rockstar). And they've all grown up playing games. Unlike aging record executives, Rockstar's team has an inherent knowledge of what does and doesn't suck.

Although much of the talk about Rockstar focuses on the personalities, Houser and Donovan are adamant about innovation in ways you don't hear many other publishing executives speak about. "Technology is paramount," Houser says, "but it's got to be there with the content, too. Particularly if the business wants to be received as a fully fledged entertainment business." **NC**

Revenant



Daikatana



Legacy of Kain

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STAR WARS: EPISODE I THE GAMES

LucasArts prepares the games to go along with the most heavily anticipated movie ever



The imminent release of the first of the *Star Wars* prequels has proven to be something of a mixed blessing for LucasArts. The company has the exclusive interactive rights to what will almost certainly be the largest movie event since, well, *Star Wars*, but it also faces development challenges it has never seen before.

With *The Phantom Menace*, the company had to start making games before the script was even finalized. Starting on a game before the script is done isn't at all unusual in most licensed games, but for LucasArts — which has previously had the luxury of three released movies and countless comics, books, and other spin-offs to base its games on — it was unprecedented. And although the game developers had extensive access to LucasFilm and special-effects house Industrial Light and Magic, they were still put in the somewhat uncomfortable position of having to simply make some assumptions

and get down to work.

A couple of projects did stall while waiting for final script elements to fall into place (they'll be released later this year). But it's to LucasArts' credit that the company, rather than falling back on tried-and-true *Star Wars* genres (a *Rogue Squadron* vehicle shooter, or first-person lightsaber slasher, say) for its first two prequel games, has instead decided to branch out into (for LucasArts) unexplored regions of gameplay. *Episode I* will mark the first time LucasArts has attempted a racing game or put the *Star Wars* universe into an adventure context.

As is clear from the take-no-chances names of the games (*Star Wars Episode I: Racer*, and *Star Wars Episode I: The Phantom Menace*), Lucas is aiming squarely at the mass market. The strength of license alone seems to guarantee healthy sales. But will the games be up to LucasArts' usual reputation for quality? We invite you to read on and judge for yourself.

STAR WARS: EPISODE I RACER

LucasArts readies its first racing title: will the Force be with it?



One of the most exciting moments in the first *Phantom Menace* trailer (and, presumably, the movie itself) is the podracing sequence, in which young Anakin Skywalker races through the canyons of Tatooine at insane speeds just a few feet above the desert floor. In the *Star Wars* equivalent of chariot racing, the podracer, a small open cockpit, stands in for the chariot, and two massive turbine engines replace the horses. "We heard about *Episode I* from LucasFilm," says co-project leader Jon Knoles, explaining the genesis of the project, "heard what the main action sequences would be, and what would be most exciting. Then we saw some really rough animatics of the podrace



The garage will enable players to inspect high-resolution models of the pods and characters, as well as purchase ship upgrades



FORMAT
PC, N64, Macintosh

PUBLISHER
LucasArts

DEVELOPER
LucasArts

RELEASE DATE
May 20

ORIGIN
U.S.



The first-person view provides a heady sense of speed (top). Anakin Skywalker will be selectable (above)

and we were like 'Yes! Let's do that.'"

LucasArts was happy to give the important project to Knoles and co-project leader Eric Johnston. Knoles knows *Star Wars*, having participated in nearly a dozen *Star Wars* game projects, from *Star Wars* on NES to *Super Empire Strikes Back* on Super NES to *Shadows of the Empire* on N64. And while he admits that *Shadows* was something of a learning experience ("One thing I learned," he quips, "is not to try to include five different mini-games."), he is adamant that the 3D experience the team gained from *Shadows* will pay off in *Pod Racer*.

There's every reason to believe he's right. An early playable version that **Next Generation** tested already had the polished control that *Shadows* displayed in the Hoth sequence. "We spent the most time on Hoth," Knoles says, "and in showed in the gameplay — that was what gamers liked the most. This time we've been able to focus entirely on one thing, and I think people are going to be really pleased."

The game is, obviously, a fantasy racer, but Knoles is quick to point out the differences from fantastic racing games such as *WipeOut* or *Extreme G*. "You don't have corkscrews or loop-de-loops, or physics-defying physics," he



Knoles on the game: "It has to be gritty — it has to be *Star Wars*"



The AI is tweaked; races always feature tight engine-to-engine action

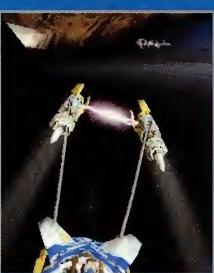
says. "It's fantasy in the *Star Wars* sense. I mean, these ships float and hover, but there's that underlying sense of reality that exists in the *Star Wars* universe — rusty, beat-up ships, and the kind of environments you would see in a *Star Wars* movie." Pod upgrades, like better air-brakes and engines, are handled in typical *Star Wars* manner: they look good, and the more expensive they are, the better they work, but there is no getting bogged down in *Star Trek*-style technical minutiae. A repair button, much like banging on the dashboard, fixes problems during the race (with, of course, a temporary speed reduction).

Knoles admits that figuring out how to control the improbable pod racers was tough until a novel solution presented itself. "One of the programmers was walking his two, uh, spirited dogs at once, and he was like, 'This is it!'" Whatever the inspiration, the control felt to **Next Generation** a lot like *Jet Moto I* — loose, but never sloppy. Pods have the ability to turn on their sides to negotiate tight squeezes, which will certainly come in handy in Beggar's Canyon, as well as on the more than 20 other tracks (18 of which were designed by top *Jedi Knight* level designers Duncan Brown and Jacob Stephens), spread out over seven worlds.

Each track has a boss (who becomes playable once he or she is defeated), and the tracks themselves are huge, measuring 10 or 20 miles each (although at a few hundred miles per hour, the three lap races are over fairly quickly). The large tracks presented two design challenges, first of which was creating a sense of speed. "It's easy: just make the courses narrow — but we couldn't do that, because it wasn't true to the movie." Instead, the



LucasArts has taken pains to faithfully recreate the movie's aliens (above). The selection screens' art direction is also taken from *Episode I*



In the movie, pod racing is seen only on Tatooine. In *Racer*, players get to experience tracks in places throughout the *Star Wars* universe

courses are very heavily populated by a wide variety of textures, track details (such as boulders), and tunnels. More worrying was gameplay. Pod racing is supposed to be rough-and-tumble, with lots of contact between pods, but on a huge track, the risk is that racers will be too spread out. Knoles' solution? Cheat. "We want it to be fun, so unless you are just awesome, there are always going to be pods around you, and the tester feedback is that this is working."

Also in the interest of fun, some license has been taken with the movie. "In the movie, it's never explicitly stated that Anakin has been off-Tatooine racing, but it wouldn't be much fun if you could only play him there, or if all the tracks were there," says Knoles, explaining that pod racing, as an "outlaw" sport, is found mostly on planets ruled by crime bosses, such as Tatooine, or other rough places. "One of the tracks is on a penal colony," he says.

So what does Industrial Light and Magic think of the job Knoles et al have done? "We had them over, and they recognized areas from the movie on the Tatooine level. They were really impressed." Will gamers and *Star Wars* fans be equally impressed? We'll find out this May.



Tracks feature multiple paths and shortcuts; AI drivers use them too

STAR WARS: EPISODE I THE PHANTOM MENACE

Just seeing the movie not enough? Lucas and Big Ape are going to let you play it



The movie's characters and environments have been faithfully replicated

LucasArts is hoping that *Star Wars* fans (including, of course, most gamers), eager to see and experience more of the environments and action that appear in the film, will be flocking to the stores to buy *Episode I* games the moment the credits roll. *The Phantom Menace*, developed by Big Ape, delivers just that: a scene-by-scene recreation of the movie, set in the film's elaborate sets, and driven, not unlike the movie itself, by copious amounts of pure action.

Big Ape's previous top-down action/adventures (*Zombies Ate My Neighbors* and *Herc's Adventures*) established them as masters of the genre, and the addition of *Star Wars* to the mix should prove potent. But it will take more than just a convincing facsimile of the *Star Wars* universe to attract savvy gamers — the days of *Rebel Assault* are long gone. To this end, the team is playing mix-and-match with the gameplay, with simple "find the key" or "navigate the maze" puzzles punctuated with impressive lightsaber combat, Jedi acrobatics, and split-second platform dashing. In common with the movies (and just about every *Star Wars* game since the arcade original), Big Ape's title relies heavily on constant action to drive it — with enough of an edge to provide a challenge for a variety of ages and abilities.

A variety of characters are playable, from Qui Gon Jinn and the young Obi-Wan to the supporting cast.



Overall, the goals are simple, and follow the plot of the movie to the letter, but seem no worse for that. Here's an example. At one point in the movie (and the game), Obi-Wan escorts the young Queen to safety through Battle-Droid-infested streets and across perilous rooftops. In the game, though, the Droids can kill the player or the Queen, and the rooftops collapse if you aren't careful, and you don't necessarily know the way to safety. Having seen the movie, then, doesn't necessarily make the game any easier.

Not since *Super Return of the Jedi* on the SNES has LucasArts so closely tied a *Star Wars* game to a film. And therein lies the appeal. *Episode I The Phantom Menace* seeks to be as much a part of the merchandise as the T-shirts, mugs, and lunch-boxes that will fill the shelves this summer. The first truly mass-market videogame? It stands a better chance than most.



When playing a Jedi (top), your combat skills enable you to easily defeat hordes of Battle Droids



The 3D-accelerated graphics enable nearly ILM-quality effects in realtime (left)

AN AUDIENCE WITH

JACK SORENSEN

LucasArts President Jack Sorensen is one of the savviest execs in the business, as readers who saw his interview in **NG 42** will recall. **Next Generation** caught up with him to talk about the *Phantom Menace* games, as well as to follow up from our last interview on an issue that he, like us, is quite passionate about: games being taken seriously by the mainstream media as a legitimate art form.

Next Generation: *Rogue Squadron* and the *Episode I* games are the first in a long time where you can play pivotal characters from *Star Wars* — Luke, Obi-Wan, Anakin. For years we had to play Rookie 1, or ...

Jack Sorensen: Well, with *Episode I*, it's because the stories involving the main characters are really all we know. Also, when we started doing *Star Wars* stuff in '89-'90, or in *Super Star Wars*, you were Luke. But then, going on from there, it boiled down to "Well, that's been done, now what else do we do?" It's not really more complicated than that. I would think that on the next-generation *Episode I* stuff, now that we're kind of through adhering to the film — which is both what people want and what the license holder, Lucasfilm, wants — we'll go off and explore other things beyond the main characters. It's really a game issue.

NG: Did LucasFilm have more input into the prequel games than it has had in the past?

JS: Well, the licensing issues weren't any different, other than that George was more involved. It started about three years ago, when myself and Steve Dauterman, director of development, met with George over lunch while he was writing the script. He talked about the script and we started talking about games. We didn't have a readable script for six to nine months after we started formulating the kinds of products that would be possible. He would give us hints about whether there was enough there [in certain aspects of the script] for a real game, and that was kind of agonizing. He wasn't altering anything in the movie for games, but he would say, "Well, there is something like this," and we would say, "How much?" And he'd say, "Well, I'm not sure yet." So we went down certain paths, and when the final script got done, we actually had to make some changes, because there was either was not enough support in the film for [the game ideal, or we had to make up new things or we'd take a product in a slightly different direction.

NG: Did any projects get canceled due to script changes?

JS: In some of the second-generation *Episode I* titles that we haven't talked about yet, we've had to make quite a few modifications and wait to have things clarified or, in some cases, just to get George and Licensing to make some decisions. In that sense, it was very different than the old *Star Wars*. There is so much classic material, you can make things up and it would still fit. Here, it's a little trickier. We can set anything before the movie, but after is sort of a tricky ground, because that's where the next film is going, so George hasn't made a lot of decisions there yet.

NG: *The Phantom Menace* is the first time you've done an adventure game in the *Star Wars* universe, yet it isn't at all a typical LucasArts adventure. What's the story there?

JS: We're definitely trying to do something a little different. The game was actually begun a bit later than *Racer* and even some of our unannounced titles. Steve Dauterman and I visited the shoot a couple of times, saw the elaborate sets they built, but then you'd only see them on screen for 30 seconds. We thought, you know, "What a shame." People are going to want to check those out. A lot of previous *Star Wars* games are based around the idea of being able to get a better view of the world, in such a way that the world almost becomes as important as a character. We debated about this for a long time — how to get it right. Because, you can do a platformer, but platformers don't tell stories very well. They have a very simple idea — "help out Zelda" — and then all the rest of it's kind of

artifice. I love those games, but they don't tell a story well. On the other side, traditional adventure games don't carry the action well. *Grim Fandango* is not an action property. Do you do a *Tomb Raider*/Indy perspective? No, because in order to tell the whole tale in a more satisfying way, you have to switch characters.

NG: Switching characters? Doesn't that hurt the immersion level of the game?

JS: Believe me, we debated that quite a bit, because it is disconcerting, but you lose some big chunks of some incredible environments if you don't switch. We want to make sure that, unlike *Shadows*, that we have consistent gameplay. You know, that you are driven by a particular perspective that allows the gameplay to be consistent. In that sense, you're able to

do action-orientated things and puzzle-orientated things that are appropriate to the scenes in the film. You know, there's twice the dialogue in the game as in the movie, and obviously it will take 30 hours to finish, versus a lot less for the movie, but we really tried to keep consistent, scene by scene, with what we thought the atmosphere and the intent was of each scene in the film. Hopefully, people will like that reverence, but it is limiting from a gameplay standpoint, so I'm sure there will be people who are disappointed, but other people will love that we paid that kind of attention. So it's different for us, and in a way, it's kind of a risk, but it was really done to be able to achieve both goals — an action/adventure where you don't lose perspective over all those cool scenes.

The Mass Market

NG: It may end up being the most mass-

market LucasArts game yet.

JS: Well, *Rogue* is pretty mass-market. I mean, we'll do over 2 million. But, you know, hopefully there is some real depth there. I mean, we are trying to make it playable at a relatively young age. You have got to do this. People may say, "Well, it's just for the money," but really, you're going to have — my son is four years old and he is going to be able to play it. He plays *Banjo Kazooie* and *Mario* on his own. You're going to have five- and six-year-olds who are going to be perfectly capable and want to play it, so you can't make it too hard. Still, you want to be able to provide some depth for people who are 20 or 30 who play games. That's a delicate balance, and we hope to do both. That will be a good test of whether it's a good game or not. It's got to appeal broadly. There is an economic factor, but equally, when it's *Star Wars*, you have an obligation to include as many people as possible because they want to check it out.

NG: Are games now a fully mass-market, normal, legitimate form of entertainment? Are we there yet?

JS: No, we're nowhere close to that. I mean, it is a mass market. It's huge. We all know how big it is, and it still makes me laugh when the legitimate press will cover records and music and TV and film in one breath, as if they're all high art forms, and then our business is looked upon as just above Mr. Potato Head. That still bothers me to no end, but I think we're 10 to 20 years away from when people just say: "There are great games, and there are bad games, and there are kids' games, and adult games, and so what?" I was watching *Eraser* on TV the other night, and it is certainly not one of the better action films. It's just blood and mayhem, right? And a film like that doesn't de-legitimize *Saving Private Ryan*, but we all know every *Carmageddon* somehow represents to the rest of the world that gaming is just a bunch of bloodthirsty youths who, if we aren't careful, are all going get their little cabin in Montana and start sending bombs to everybody, you know? It's just going to take a long time to mature.

NG: Will games like *The Phantom Menace* help the industry get there?

JS: I feel pretty strongly about this, but it's so far away. The industry is doing a better job at it, but we still know that there is an entire age group, I think, especially over 50, who didn't grow up with games. I mean, I'm almost 40 and I grew up with games. There is just a gap there, and those are a lot of the editors of the mainstream press and politicians and things who look on games as some debased art form. Film was looked on in the same way in the '20s, so it will just take some time.

NG: Are you worried that today's mass market isn't going to stick around? There's a certain sense, with some people, that these naive consumers are coming in and buying games, but if they buy a bad game, they're lost forever: they won't have a good experience, and they won't buy again. And if you look at the PC sales charts, clearly, it isn't just good games that are selling.

JS: The power of marketing upon a group of people who are inexperienced is vast, and that's going to be there for a long time. I mean, that shows like *ER* and *Seinfeld* are successful just blows me away, because they're actually pretty well made by TV standards. What doesn't surprise me is when you have something like *Home Improvement* at the top. Because that's very pre-chewed, so it goes down real easily, and that's kind of within the tradition of TV.

There is nothing more mass-market than TV. Even film isn't as mass-market as TV, right? Even with the success of *Star Wars*, the entire number of people who will go see *Star Wars* in the theater in the States is nowhere close to your average audience on Thursday on NBC.

Look at what goes on in TV and you'll get a real good cross-section of where the bell curve is when it comes to entertainment and quality standards. So that's television, which has been around for basically 50 years. Games have got a long way to go before you get your *Seinfelds* at the top, though we get some of that on the consoles: *Zelda* and *Mario* on the N64 and certainly the top sports titles and *Metal Gear* and other titles on PlayStation. On the consoles, you have an audience that buys the machine to play games, so you have a higher quality ratio, because it's a self-selecting, educated audience. On the PC, you have the reverse, because most people buy a PC with gaming being secondary. They are more likely to buy whatever is big or that they're hearing about or is just advertised to them directly.

Grim Fandango 2?

NG: OK, let's finish on an up note. There is definitely a population out there that's probably a little upset that *The Phantom Menace* is coming out because it means LucasArts is going to be focusing so heavily on *Star Wars* games and less on other things. Which leads to the question everyone who played *Grim Fandango* is asking: what's Tim Schafer doing now, and when can we expect it?

JS: You know, I hope we're not just known for *Star Wars* and adventure games. We're trying to fix that. But to answer your question... hmm. What the hell is Tim doing? I wish he'd tell me! [Laughs.] He's working on his next thing, but you know, it takes a long time to build those games.

NG



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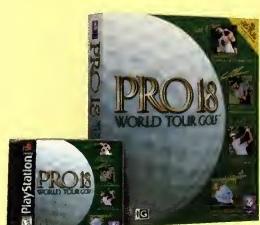
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CHOCOBO'S MYSTERIOUS DUNGEON 2

Everyone loves the chocobos in *Final Fantasy* — but enough to do a game based around them?



A wide variety of spell effects help to keep the action lively as you descend deeper into the game

Choco's Mysterious Dungeon 2 is the latest in a long string of faithful remakes. This game and others such as *Diablo*, *Fatal Labyrinth*, and *Nethack* all derive from the same basic stock — a Unix game called *Rogue*. These titles revolve around dungeon exploration played from the top view, complete with plenty of hacking, slaying, magic items, and, of course, monsters. What differentiates these games from your standard dungeon romp is that the dungeons are randomly generated each time so you'll never know exactly what to expect. This ensures plenty of replay value as well as a continuous challenge.

Which brings us to *Chocobo's Mysterious Dungeon 2*, a game that resembles the others but possesses a personality all its own. This time around you play Square Soft's quasi-mascot, the strange bird called the chocobo. As usual, there are several different dungeons for you to venture down into, all of which are created completely randomly every time you go in. Despite the cuteness of the game's big-headed characters and its wacky monsters, the underlying game is pretty standard. As in traditional role-playing (although this can only be considered an RPG in the most casual sense of the word), you can level up your character as you kill more monsters, allowing you to hunt down even more powerful monsters. In this manner, the



Lost again? The dungeon levels are all randomly generated, so you'll never know exactly where you need to go

game's cycle continues until you reach the end or die trying.

Along the way, you will find healing springs and other magic to help you vanquish your charming-but-deadly foes. The secret is to get as far down as possible in a single game — because if you have to go back to the surface to heal or save, the levels will be randomized again, and you'll be back at square one.

Despite the fact the game isn't scheduled until Q1 2000, the version that **Next Generation** got a chance to play was remarkably complete and quite a bit of fun to play. If all goes well, this will be a solid addition to Square's growing stable of U.S. titles.



While the enemies may be cute and cuddly, they can kill you just the same



One of the keys to continuing survival is hunting down the many magic items that will aid you in destroying the monsters

FORMAT
PlayStation

PUBLISHER
Square EA

DEVELOPER
Square Soft

RELEASE DATE
Q1 2000

ORIGIN
U.S.

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SAVAGE QUEST

Can Angel Studios reinvent the beat-'em-up with a prehistoric twist?



It has always been the watchword at **Next Generation** to champion substance over style in games. Even so, at first glance it is difficult not to be overwhelmed by the luscious visual and audio environments presented in *Savage Quest*. In fact, it's almost impossible not to just sit and stare at the action on the screen in rapt wonder as the incredibly lifelike dinosaurs pummel each other into bloody heaps. Ultimately, this is all you do — fight dinosaurs and rip them to bloody shreds, but while the gameplay may sound shallow, our first experience with the game was anything but.

Described as a "bite-'em-up," *Savage Quest* certainly doesn't look to bust any

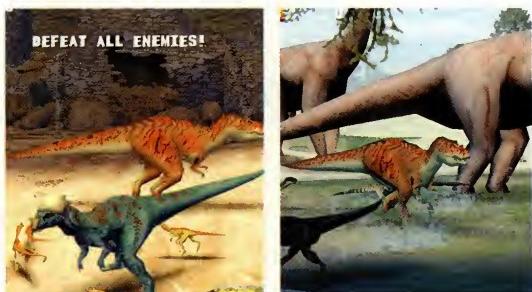
gameplay paradigms. You play one mean T-Rex on a quest to rescue some eggs from an evil shaman (obviously Angel Studios took some literary license with actual history on this point). You are

You'll need to prey upon the smaller creatures in the game (including primitive man) at all times to keep your strength up

While the gameplay may sound shallow, our first experience with *Savage Quest* was anything but

equipped with all manner of bites, head butts, tail sweeps, and one heck of a roar that causes the entire room to reverberate. There is nothing here that we haven't seen a hundred times since *Double Dragon*, but the fact that you are a dinosaur makes all the difference.

Ultimately, it is the "personality" of the lead character and the enemy dinosaurs that give the game such life. There are 24 different species, each of which is exquisitely detailed and animated. Each exhibits unique behaviors that you will have to learn to deal with to survive. Every time you meet a new



Despite the fact that the arcade game is done on the 3Dfx-based Intel architecture, it still manages to stand out visually and avoid the overdone "3Dfx" look

FORMAT
Arcade/PC

PUBLISHER
Interactive Light

DEVELOPER
Angel Studios

RELEASE DATE
Arcade: Spring 1999
PC: Q4 1999

ORIGIN
U.S.



Most of the time, you deal with multiple enemies, so you'll have to be careful not to get surrounded

group, you must assess their weaknesses and exploit them. Enemies range from a pack of compys (who will actually jump on your back and rip out flesh) to winged pterodactyls that fly overhead. All the while, you'll have to keep a close eye on your strength, because you'll need to constantly keep eating other dinosaurs or you'll weaken from hunger.

Adding to the feel of "being there" are some lush environments that really show off the artistry of the Angel Studios team. You will travel through volcanic wastelands, dark caves, roaring rivers,

One of the key factors contributing to the overall realism is the gore onscreen as the dinosaurs rip out chunks of each other's flesh

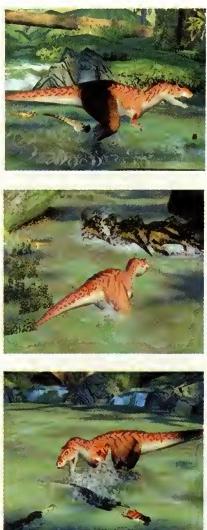
and, strangely enough, humanoid villages. As you fight your way through each level, you will be treated to spectacles such as herds of dinosaurs populating the background as well as incredibly detailed and realistic waterfalls. Even the trees standing in the background sway in the breeze.

The sound is also a big part of the game's experience, and Angel Studios has given special consideration to making sure that the in-game sounds and music accentuate the prehistoric feel. The soundtrack so far is truly of an epic nature, and when you first let out your T-Rex roar (which, appropriately enough, stuns all enemies), the whole room around you will shake. The arcade cabinet that the game is destined to sit in further accentuates this experience — it houses a truly impressive subwoofer in the seat.

With the arcade version due out this spring and the PC version to follow later this year, Angel Studios looks to be the reigning champion in the dinosaur action-game market. It is *Next Generation's* hope that gamers will be as enthralled by the gameplay as they are by the incredible visuals and sound.



Each breed of dinosaur that you encounter requires a different strategy to be defeated, adding some much-needed variety



The lush environments are among the most realistic yet seen

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MILESTONES

Next Generation's monthly update on tomorrow's games

Proven track records. Id has one, but the closest some game developers come to the Mesquite, Texas, powerhouse is when they sit down in front of *Quake II*, hoping to frag away their frustrations

after a hard day of grinding out some uninspired clone. Fortunately for the lost souls working on *Conquering Commander 4: Siberian Tundra*, the third installment of *Quake* is getting closer.

QUAKE III: ARENA

PC



Carmack's latest feat of software brilliance just keeps looking better and better every time we see a new screen shot. It's safe to say this is the most anticipated title for PC this year, and no self-respecting deathmatch addict should be without a copy.

DRIVER PlayStation, PC

First covered in NG 47, *Driver* is a high-tech homage to every car chase ever filmed. U.K.-based Reflections has been bought by GT Interactive, so the game has found a publisher. Great news, as *Driver* definitely taps into that deep-rooted spirit of Steve McQueen that lurks in everyone's soul. And the PSX version? Already addicting

CHOCOBO RACING PlayStation

Another attempt at bringing *Mario Kart* to PlayStation, Square's *Chocobo Racing* has all the right elements — cute characters, "wacky" courses, and a dose of speed. Hopefully, they'll gel nicely

PLANESCAPE: TORMENT PC



After the success of *Baldur's Gate*, Interplay is gunning for a double RPG knockout with this title, set in AD&D's Planescape universe, a dark, grim place by all accounts — looks good to us

WORLD DRIVER CHAMP Nintendo 64



The latest from developer Boss and publisher Midway is a visual stunner, loaded with lighting effects and environment mapping a la *Gran Turismo*, and boasting 10 tracks and a lineup of 33 cars — the most ever for an N64 game. This is the same team that created *Top Gear Rally*, so expect the gameplay to be as good as the graphics

DARK REIGN 2 PC



The original *Dark Reign* caught the attention of many a gamer in late '97, despite the glut of RTS games that were flooding the market at the time. With a new 3D engine, this update may set the RTS world on fire again.

FLASH POINT



This post-apocalyptic PC shooter lets you drive several attack vehicles

SEVEN KINGDOMS II



The cult PC RTS hit gets a major revision, in which the Fryhtans are on the rampage. Players must band together to win.

MLB 2000



989 will be hard-pressed to improve this title over last season's, but for sure you'll at least get all the updated stats and rosters.

TRIPLE PLAY 2000



Sporting a newly-enhanced 3D engine, EA promises this N64 *Triple Play* will outperform all comers — we'll see.

EVIL ZONE

PlayStation



HARRIER 2000



The first true flight sim for N64 is coming from developer Paradigm, who made *Beetle Adventure Racing* so much fun.

HYBRID HEAVEN



Konami's blend of action and RPG for N64 certainly has piqued our interest, especially after the brilliance of *Metal Gear*.

ALL STAR TENNIS '99



Ubi Soft's tennis game for N64 is unique in that the animation is said to show facial expressions as well as forearm smashes.



This title was picked up by Titus from Japan. While it emphasizes a simple style of fighting, each character has lots of super moves.

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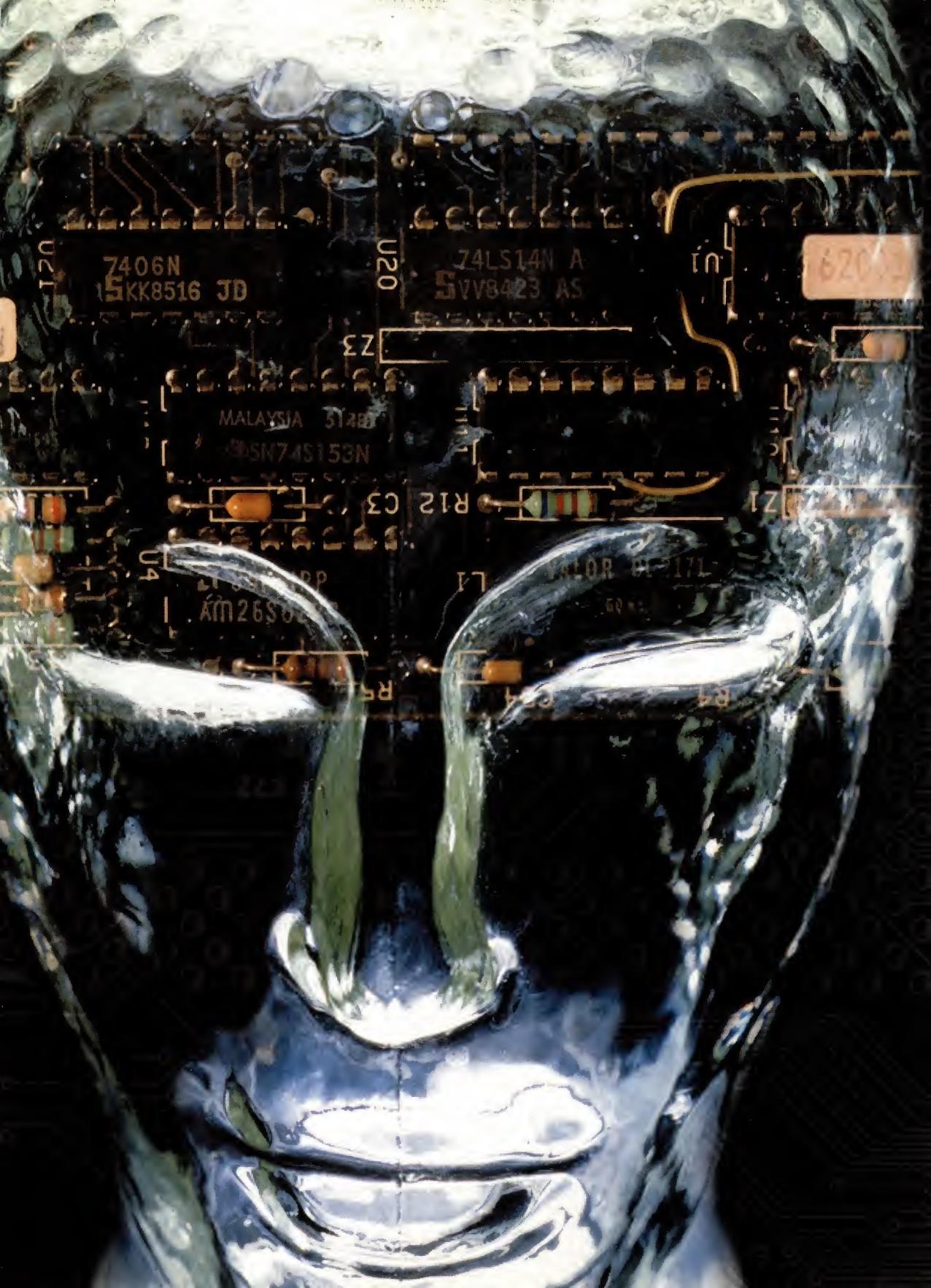
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MAN VERSUS THE MACHINE

The arrival of *Half-Life* has been a major wake-up call for the world of computer and video games, ushering in a new age of truly challenging, seemingly free-thinking opponents. Ostensibly a reworking of the *Quake II* engine and genre, Valve Software has used this solid foundation to conjure up one of the most terrifying and absorbing game environments to date.

Graphics play their part, but the real reason *Half-Life* manages to totally envelop unsuspecting players into its alternate world of dimension-hopping aliens and lethal Black Ops troops is the way these characters have been brought to life with a dazzling array of behavioral patterns and quirks. To an outside observer, it's often hard to tell which *Half-Life* characters are human and which are artificial. Although there is still vast room for improvement, *Half-Life* demonstrates that game-based artificial intelligence has, in many ways, finally come of age.

Valve's Gabe Newell explains that *Half-Life*'s AI approach encompasses three major areas: the overall architecture of the game, specific features within that framework (such as navigation), and the creatures that utilize these features. "The first two aspects are pretty challenging technical problems, but they are fundamentally just technical problems," Newell says. "The hardest part was designing the individual creatures so that they had unique and interesting gameplay — so that they would work in the spaces we had designed, and so that they fitted into an overall progression that had to relate strongly to both the weapons and where we thought the player would be in understanding how the game worked. The creature designs weren't just technical problems, but a creative and aesthetic problem as well, where every choice affects all of the other choices you make."





Thief's AI is progressive. Guards listen for noises and work with each other to locate you

This highlights a key aspect of how AI is applicable to games. It's not so much the underlying "intelligence algorithms" that matter as much as the application of those algorithms to characters capable of exhibiting identifiable behavior. It's easy to create a game where the computer wins every time, but it's harder to inject a level of personality into that behavior and imbue it with human flaws. Recent developments haven't been about games simply getting smarter and harder to beat, but about characters in games acting more and more realistically — that is, like actual human players.

"There's a threshold where the characters go from being mindless automatons to being compelling opponents" **Gabe Newell, Valve**

NEW WAYS OF THINKING



Crucially, there are new developments in the way AI is implemented to consider. Few games have strayed from the method outlined by Gabe Newell of using a relatively simple set of behaviors to produce seemingly complex behavior, but some believe that the future lies in more complex methods. These are the main contenders:

Fuzzy Logic Fuzzy logic and fuzzy state systems are designed to handle the concept of "partial truth," valuable for the linguistic side of academic AI, and useful in gaming terms for having characters act "intuitively" in imprecise and undefined situations. The *Close Combat* series has made some use of fuzzy logic, and it will be used in Activision's upcoming *Civilization: A Call To Power*.

Neural Networking Making use of an interconnected set of nodes (an approximation of neurons in the human brain, hence the name), neural nets are able to identify patterns in data and modify behavior based on it. It can enable a character in a game to learn as it goes. Many games imbue their creatures with a limited memory (even fighting-game opponents learn what moves a player favors), but neural networking enables these artificial creations to learn about

It's not only the way the various breeds of aliens act and respond to the player's actions in unique ways that makes the *Half-Life* ensemble so effective. These enemies also interact with one another, the communication most obvious when squads of Black Ops grunts pin the player down with coordinated attacks. "Once we went with groups of characters communicating back and forth among themselves and deciding what actions to take as part of a larger whole, we started to see a lot of very complex behaviors well beyond what the code would suggest," says Newell.

The art of creating convincing, challenging foes isn't simply a matter of piling on the behavioral rules, however. "The Human Grunts, our most successful character, have about 25 basic behaviors whereas the Assassin, also very successful, only has about ten," Newell says. "There seems to be some critical

threshold where the characters go from being mindless automatons to being compelling opponents, but I don't think we are exactly sure where or why that is."

CALL AND RESPONSE

Not only was the AI lab at MIT the birthplace of the computer game (Stephen Russell's *Spacewar!*), it was also there that the game-AI story really got going with Joseph Weinbaum's Eliza, who had a way with words

their environment and the actions of other creatures by modifying the AI code in realtime. Characters effectively get smarter the longer they "live." Neural networks have been successfully used in the *Creatures* titles. *Battlecruiser 3000AD* is the next game to try the technique on for size.

Genetic Algorithms These are at the heart of artificial life, an alternative to standard AI (see AI vs Artificial Life, p. 74). They treat a number of building-block algorithms as genetic blueprints. This not only helps define behavior but makes it possible to produce "children" by mating and mutating algorithms. Again, *Creatures* and *Creatures 2* use this. Genetic algorithms also feature in William Latham's work, helping to create the evolving images in *Organic Art* and making it possible for new creature types to breed in the yet-to-be-released *Evolva* (now sadly without a publisher).

Blackboard Technology A method for determining a reaction by using a set of independent AI modules. The analogy is a team of people working to solve a single problem on a blackboard. Atomic Games originally intended to use blackboard technology on *Close Combat*, but the idea never actually made it past the planning stage.

despite being nothing more than a text-based computer program. Developed in 1966, the aim of Eliza was to mimic a Rogerian psychotherapist by constructing responses using the user's own words and sentence structures. A typical "conversation" might go as follows:

Eliza: Why are you here to see me?

User: I feel depressed.

Eliza: Why is that?

User: My father keeps bugging me to finish school.

Eliza: I see. What do you think it is about your father bugging you to finish school that makes you depressed?

Revolutionary for its time, Weinbaum was surprised to find even people who knew exactly how Eliza worked getting into deep, personal conversations with



ELIZA - a friend you could never have before

You: what is your name?

Eliza: I have told you before, I do not care about names

Little Computer People



Creatures



it. Although Eliza was certainly not intelligent, it was able to satisfy some of the criteria set out in the famous Turing Test.

Born in 1912, Alan Turing was an English mathematician. In addition to playing a pivotal role in breaking Germany's Enigma code during WWII, he was a leading influence on modern computing as the first person to propose the theory of a general-purpose problem-solving machine (indeed, any modern computer can rightly be called a Turing Machine). But he will probably be best remembered for a paper entitled "Computer Machines and Intelligence"(a copy of which is on the Web at the easy-to-remember URL: <http://www.sscf.ucsb.edu/~sung/comm115/writing-define-computing/Computing-machinery.html>), in which he postulated a situation where a computer would be interrogated using only text messages. If the interrogator is unable to distinguish whether the replies are human- or computer-generated, then the computer is defined as intelligent. This idea is now used as the blueprint for all artificial intelligence. Turing also did some of the first programmed game playing, using

IT'S ALIVE!

Some of the more unusual examples of seemingly intelligent computer game behavior:

Eliza (1966) The grandmother of all AI creations, Eliza was conceived as an academic project, but became something of a favorite parlor-game program for home computers in the early '80s, with magazines regularly printing programs "Inspired" by the original. Eliza is primitive by today's standards, but still throws up the occasional smart response. Try out an online version of Eliza at <http://www.ai.ijs.si/eliza/eliza.html>.

Little Computer People (1985) David Crane's Commodore 64 program provided many computer owners with their first glimpse of AI. It features a house, complete with bedroom, kitchen, living room, and gadgets such as a stereo and telephone. Wandering around this house is a sprite character, initially checking out his new home, then settling down, playing records, eating, sleeping, and even writing letters and playing cards with the user. Not really very AI-orientated, but endearing all the same, and certainly more advanced than Tamagotchi (unleashed some ten years later).

Creatures (1996) The first offering from Cyberlife follows in the footsteps of *Little Computer People*, but uses far more advanced techniques to create its own variation on the ant-farm concept. Using artificial-life techniques, it's possible to hatch creatures known as Norns, feed them, teach them the concepts of right and wrong, and even get them to talk. Each Norn has a limited lifespan, but by breeding them it's possible to create offspring with markedly different behaviors.

Sentient (1997) Psygnosis attempted to inject new life into the adventure genre with a raft of clever ideas. Complex personality modeling and advanced sentence-based communication are used to populate a spacestation with a whole team of workers, where the individuals go about their own business, talk to each other, and react to what happens and what they learn. Impressive stuff, unlike the rather tedious gameplay itself.



"Gamers want a challenge — they want a computer-controlled opponent to act like a human so they can have as much fun playing alone as playing online" Tim Willits, Id Software

<http://www.next-generation.com>



For the moment, AI is powering the behaviors of computer-controlled characters in games, but some believe the future lies with artificial life. Cyberlife has already proved this in the *Creatures* titles, using the more ambitious kind of modeling to its advantage. But just what is artificial life?

Cyberlife's Toby Simpson: "Artificial life is the creation of lifelike behaviors using large populations of autonomous

objects (called agents) that, when combined, produce more complex emergent behavior where none of the individuals know anything about the emergent behavior that occurs."

Simpson stresses that artificial life approaches the problem in the opposite way. "Although a generalization, the best way of understanding the difference between AL and AI is this: AL approaches problems from the bottom-up whereas AI approaches problems from the top-down, or outside-in. Typically, AI solutions are code driven and AL solutions are data driven."

While AI code is concerned with superficiality, it's the results produced that matter, not the processes behind them. This top-down approach means you need to fully understand the whole system to produce the code needed to replicate a desired behavior. It's emulation rather than simulation. "Emulations are superficial, and although ideal for simple systems where you understand the whole system, they collapse when pressured to create massive virtual environments," he qualifies. "Developing from the bottom up, we do not have to understand the whole system in order to replicate the desired behavior. Instead we model the building blocks of a system and rely on emergence to fill in the gaps. We've created a biological modeling system that allows us to 'build' biological systems inside computers, that go on to solve problems. Computers cannot be intelligent, however, computers can model systems that can in themselves be intelligent. It's a sort of biological Lego set."

chess. However, because computers of the day were not powerful enough, he would run the programs in his head (he didn't cheat, and almost always lost when "running" a program), in stark contrast to his typically masterful chess playing.

Eliza and other sentence-parsing programs led directly to MIT's next contribution to the gaming world, the text adventure games of Infocom, which enabled players to type commands in full English sentences to the computer, which acted as a game master, providing descriptions of the environments

"If we ever reach a point where a player can no longer tell the difference between a computer opponent and a human one, then it might be time to retire" Bret Ambrose, Westwood Studios

and action (indeed, it can be argued Zork might win a limited "Dungeon Master Turing Test").

Other than Infocom, though, most game AI development from Eliza on tended to focus on computer chess programs. As Gabe Newell says, "While undoubtedly clever, these rely more on computational power rather than behavior modeling. It wasn't until the late '80s that game developers really had something to work with, when Rodney

Brooks at MIT began publishing papers about algorithms based on layered behaviors that were easy to implement. The key lay in using very simple rules that provide the right results in certain conditions, rather than going to extraordinary lengths to dictate all the nuances of human behavior to be simulated."

When coin-ops and then home consoles and computers took hold in the late '70s and early '80s, creating artificially intelligent opponents was the last thing on programmers' minds. Early computer games were reaction-based, usually relying on the number rather than the cleverness of opponents to provide a challenge. In hits such as *Space Invaders*, *Pac-Man*, and *Asteroids*, the environments were always abstract and "AI" was usually limited to enemies running scripted patterns. Even after Brooks' work was published, programmers were slow to latch on to AI. Time, effort, and processing power were generally invested in the visuals, particularly once polygon-based 3D caught gamers' imaginations.

TAKING ORDERS

Early wargames provide an insight into the implementation of AI in computer games, but even here there is an abstractness to the gameplay that restricts just what can be achieved. Their turn-based nature instantly erects a barrier between the human and the computer opponent, removing the ability for



The AI code in *Half-Life* not only brings alien creatures to life — they can hunt in packs, too. Allies and enemy soldiers also have believable attributes

enemies to react in realtime to a tactic. And when a whole day's maneuvers are simulated in a single turn, it becomes almost impossible to detect any nuances of behavior.

Games geared more toward empire building than straight combat do provide further room for behavioral quirks. *Civilization*, in particular, deserves a mention for its computer AI code. Play it and the impression is of an opponent that actually thinks and even makes mistakes, rather than following a set of chess-like rules.

On the whole, though, a realtime environment is essential for impressive game AI, which is why Westwood Studios' *Dune II* and *Command & Conquer* are viewed by many as milestones. As the first realtime wargames with mass-market appeal, they were able to calculate and portray army moves on the fly, reacting instantly to the player's strategies and modeling both unit and leader behaviors while at the same time ensuring the units under player control acted sensibly without the need to micromanage every move. This simple change instantly makes it difficult to distinguish whether an assault, for example, is coming from the computer or another player. There are flaws in the systems used by these games, but they do a good job of guiding a whole army of units in a suitably militaristic way.

The next *Command & Conquer* title, *Tiberian Sun*, is set to bring Westwood in line with other RTS developers such as Cavedog (with *Total Annihilation*). Bret Ambrose, programmer on the *C&C* project, explains the approach taken with this latest title: "Unit AI in *Tiberian Sun* is a mix of old and new. Some subsystems — the pathfinding, for example — have been completely ripped out and replaced with superior implementations. Other systems, like the unit missions, have been kept over from previous *C&C* games. These older systems have been revised, expanded, and extended, though. We now have new missions and behaviors for AI units to follow." These include the ability to scout, capture, and infiltrate, traits that have the potential to open the gameplay completely.

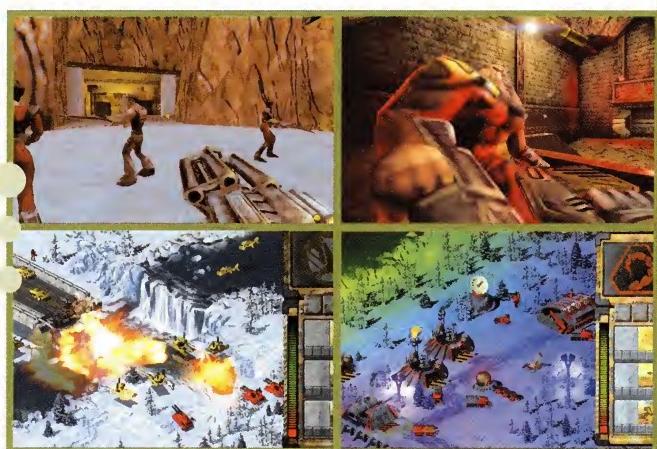
THE RISE OF THE DEATHMATCH

Ironically, the game that's had the most influence on computer game AI did it by doing away with AI entirely. *Doom* has been responsible for pushing programmers to improve opponent intelligence more than any other

game, simply because it's so much fun as a multiplayer experience. By the time *Quake* arrived, Id Software was concentrating almost solely on Internet support so that multiplayer battles could be brought to the masses. The popularity of deathmatches has given shoot-'em-up fans a thirst for more challenging opponents in single-player outings, something that programmers have been quick to take note of.

Tim Willits, level designer at Id, agrees. "Many gamers today have experienced multiplayer games against other humans. They have played against an intelligent opponent who is able to learn, be unpredictable, improve, and adjust their style of play to win. Once gamers experience that level of sophistication in an opponent, they have less desire to play against lesser enemies. They want a challenge — they want a computer-controlled opponent to act like a

"Good AI code is sort of Zen — it is as sophisticated as it needs to be without being any more complicated" Gabe Newell, Valve



Unreal's deathmatch game (top) with computer-controlled bots is admirable, but flawed. *Westwood's* *Tiberian Sun* (bottom) sports far more complex AI coding thanks to more diverse abilities and varied terrain



HOW AI WORKS

The code required to bring a game character to life can be broken down into three distinct areas:

Navigation This encompasses pathfinding and general use of the environment. How a *Quake* bot or C&C tank reaches its destination is defined by this. As Id Software's John Cash says, "It's remarkably hard to get a bot from A to B without them looking like an idiot." Pathfinding often involves using a process such as Dijkstra's Shortest Path Algorithm, but there are also the differing kinds of movement for each unit to consider. Westwood Studios' Bret Ambrose: "In *Tiberian Sun*, some units can hover, others burrow underground; infantry can move through areas occupied by forest, mechanical units can't; some units can crush walls, some can destroy them, and others have to find their way around." Evidently, getting from A to B requires a lot of solid coding.

Strategy The tactics that creatures can call upon are to be found here. Cash explains how this relates to *Quake III: Arena*. "The tactical AI governs combat, circle strafing, jumping, reversing over health packs while you're fighting, that kind of thing." In other words, it's what helps provide the character with the appearance of common sense. Navigation stops a monster from running against walls, but it's the strategy AI that makes it clever enough to attack from behind or dodge a bullet.

Behavior Any quirks or signature abilities are covered by behavior. These include line-of-sight and distance-of-sight values as well as the ability to hear noises, see only in certain lights, and so on. Tendencies such as when to retreat, what moods are possible (such as being scared, aggressive, alert, or asleep) might be needed, as well as the likelihood of making mistakes. Some creatures might also have the ability to communicate information to other creatures or to form packs with them. It's this final element that requires the most artistic talent, but really brings a creation alive when done right.

"The AI mustn't be too good. It needs to make predictable moves, all the mistakes that a real player makes. The trick is to do it in a believable fashion" *John Cash, Id Software*

human so they can have as much fun playing alone as they do playing online."

Still, Westwood's Bret Ambrose isn't convinced good AI will ever provide an adequate substitute for multiplayer gaming. "People play multiplayer games for two principal reasons: the social community that builds up around games, and the variety and challenge that a human opponent provides. We will never be able to program the social aspects of online gaming, but if we ever reach a point (essentially the Turing Test of computer gaming) where a player can no longer tell the difference between a computer opponent and a human one, then it might be time to retire. I don't see that happening anytime soon, if ever, though."

Nevertheless, it's something the deathmatch community has been working towards for some time. Steven Polge's Reaperbot add-on for *Quake* provided

the first taste, using an efficient set of algorithms to guide artificial deathmatch opponents. Polge also worked on *Unreal*, where computer-controlled enemies in the single-player game frequently dodge fire and even run away if the battle is going badly. Several creature types also successfully make use of flocking, a technique that simulates pack behavior and movement. A single-player deathmatch option is also included in *Unreal*, though the AI code is rather less effective here.

And of course, it's the concept of the human-versus-bot deathmatch that *Quake III: Arena* (NG 50), *Team Fortress 2* (NG 52) and *Unreal: Tournament* (NG 52) will be built around. Will the AI be up to a single-player deathmatch (or Capture the Flag or team battle)? The men and women behind the top three first-person-shooter franchises certainly hope so. John Cash, who is responsible for coding *Quake III*'s AI, admits that Id didn't bother with any feasibility tests before deciding to opt for a deathmatch-only game. "We really didn't feel this was necessary. The number and quality of bots that have been produced by the gaming community for *Quake* and *Quake II* was proof enough of the feasibility."

John Carmack's improved code for *Quake III: Arena* promises to deliver far better Internet play as well as the graphical power necessary for Id's artists to shame most of the PC's current crop of accelerated titles. But it's Cash's AI work that promises to really make it such a landmark title. "The goal is to develop human character frailties," he explains. "There will be characters who make basic mistakes, characters who use some common sense, and those who will be deadly like a super-good player." The idea is not only to create a challenging opponent, but one whose style can be learned and used against it. Computer enemies should even be able to use tactics such as rocket jumping.

"The current AI enables us to put bots into a map and play against them," says Cash. "A great deal of the work to this point has been for the actual combat logic, so they can be pretty nasty in a firefight. There is always much more that you would like to do than you will ever have time to do." Cash agrees with Valve's Gabe Newell that creating good AI is, essentially, an artistic task. There's always the danger of creating AI that's just too clever, rather than challenging in the right ways. "The challenge of creating good AI for a deathmatch game is to make the player feel like they're competing against another player instead of a machine. To do this the AI mustn't be too good. Meaning that it needs to miss shots, stay in a losing fight, make predictable moves — all the mistakes that a real player makes. The trick is to do it in a believable fashion."

A BETTER CLASS OF ENEMY

Some developers are already working on more advanced methods of emulating intelligent behavior (see *New Ways of Thinking*, p. 72), but the results so far have been mixed. It's arguable that it's not necessary

to model every characteristic of a creature to make it believable. It's the result, not the method, that matters. "Good AI code is sort of Zen — it is as sophisticated as it needs to be without being any more complicated," says Newell. "Really complex gameplay emerges out of the intersection of thoughtful simple behaviors, not a really complex design. The tricky part is picking the right simple things to build on, which takes a lot of experience and some luck." Adds Westwood's Ambrose, "If simple ideas and techniques are all that's necessary to provide this functionality (the ghosts in *Pac-Man* don't need complicated pathfinding routines, for example), then advanced AI techniques certainly aren't needed."

Looking Glass Technologies' *Theif* is an ideal example of this approach. Scripted situations are blended with imaginative AI, with characters possessing the ability to hear noises rather than simply relying on line-of-sight to spot the player. When combined with an ability to communicate with others — calling for help, sounding alarms, and even calling out into the dark — the results are spellbinding.

Newell points to the problems with *Trespasser* as an example of how attempts to simulate real situations can get out of control. "In talking with some of the *Trespasser* designers, they got themselves in trouble by insisting that everything had to be simulated, and they just couldn't simulate well enough to create fun and entertaining behaviors. The T-Rex never walked under the crate that was suspended by a rope you could shoot out. A good AI system allows you to blend both simulated or AI-driven behaviors with authored events in a seamless way."

This provides one of the more dramatic examples of where game AI breaks with traditional, academic AI. Clearly, the challenge for developers is to create interesting and finely tuned AI code. That doesn't necessarily entail making use of advanced and lofty AI concepts. In games, it's the resulting behavior, not the formulas used to generate it, that matters. When creating AI for games, most developers also freely mix and match elements from traditional Artificial Intelligence research and the more recent theories developed by the Artificial Life community (see AI vs. *Artificial Life*, page 74). In academia, the two camps frequently maintain a barely cordial truce. "Most academic AI research is directed toward making computers intelligent, as opposed to just making them seem intelligent, which is all that's really important in games," points out Newell. "Traditional academic AI research also emphasizes highly complex internal states, which is not only very difficult to program, but hiding the internal states is really the last thing you want to do in an action game."

And it's important to remember that it's not always about providing players with opponents as good as other humans. Playing *Quake* or *Half-Life* in single-player mode would be pretty frustrating if every single enemy was as tough as a deathmatch opponent. "Creating AI that is too tough is very easy, almost more so than creating AI that's too weak, and in between is a

very delicate balance," says Newell. "AI is just a tool, and your goal is to create entertainment. There are lots of ways you can fall in love with your own ideas and leave the gamer out in the cold."

Ironically, the ultimate goal is to create AI that's almost invisible. As Cash asserts, "Bad AI is more noticeable than good AI, so when it's really good you don't realize it unless you stop to smell the roses." What gamers now need are computer-controlled opponents and allies that act in a way that help to promote the believability of the game environment. Just as game worlds are becoming less abstract, a greater sense of immersion is arising from improved visuals, more interaction with objects, and judicious use of real-world physics, so the inhabitants of these worlds need to act in ways that reinforce the illusion of solidity.

The final word goes to Newell. "I know of other game developers who have commented that character AI is a dead end and that there's nothing more to do. I'm of the opinion that we've barely just started." **NIC**

"Creating AI that is too tough is very easy, almost more so than creating AI that's too weak, and in between is a very delicate balance" Gabe Newell, Valve



The AI in *Quake III: Arena* will be crucial to its success. The bots will display different personalities, but all will be capable of human-like mistakes.

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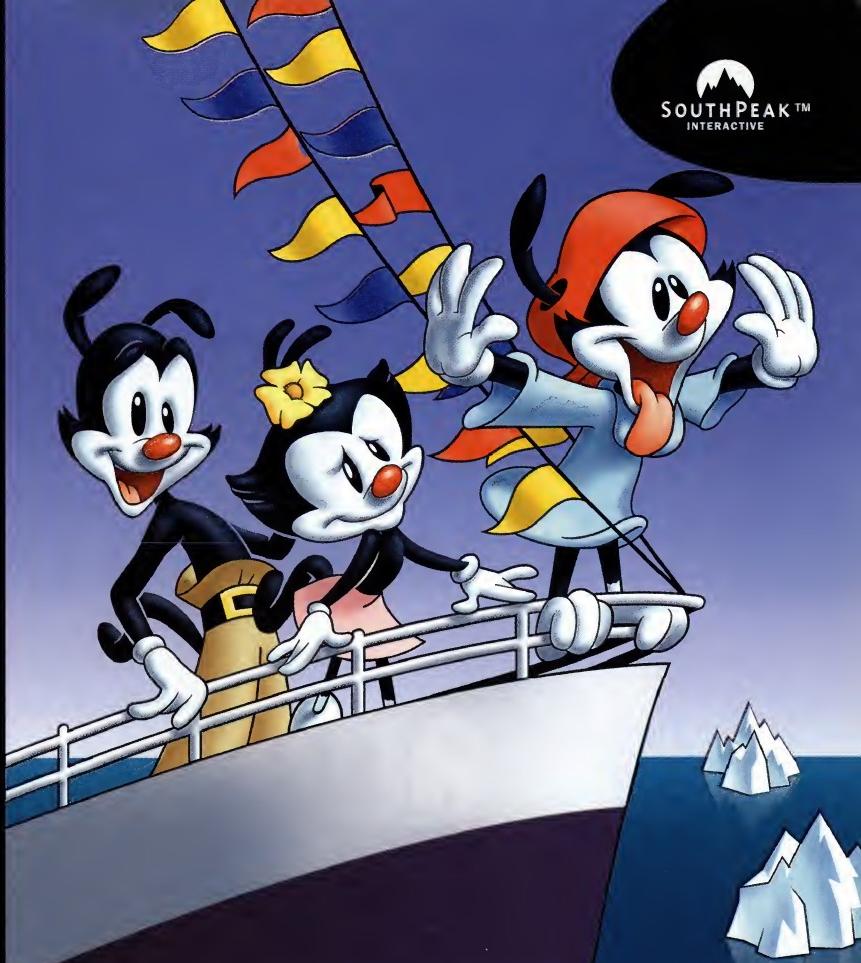
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Do you remember your first time?

There's a very real chance it was with an Activision game. And the company that bought you *Pitfall* and *River Raid* is still in the game. **Next Generation** talks to Bobby Kotick of Activision.

Twenty years and rising...

Activision has come a long way. Since its founding in 1979, the veteran game publisher has seen console empires flourish and crumble, witnessed the birth of every major gaming phenomenon, and endured its own roller-coaster ride of booms and busts. Activision's Atari 2600 classics such as *Pitfall*, *Kaboom*, and *River Raid* were the hits of 20 years ago. Today, Activision is still topping the charts with games such as *Vigilante 8*, *Cabela's Big Game Hunter*, and — courtesy of a sweetheart deal with Id Software — *Quake II*.

But Chairman and CEO Bobby Kotick is not entirely satisfied. With EA the undisputed heavyweight champ of the world's game publishers, Kotick is determined to fight off Eidos and GT for the number-two spot. And, with the wind behind him, one of these days he might even take on EA for the top spot. **Next Generation** met with Kotick to gain a glimpse of how one of gaming's visionary leaders sees the current state of play.

A LONG, LONG TIME AGO...

Next Generation: How did your involvement with Activision begin?

Bobby Kotick: I've been in the games business since 1982. My first involvement was when I tried to acquire Commodore with a bunch of partners and turn the Amiga into a 16-bit videogame system. That didn't happen, but we did end up buying control of a small company that was Nintendo's licensing agency. We did all of the worldwide licensing for Nintendo's non-game merchandise. We did the T-shirts, the coffee cups, the

toys, and this was the route by which we got to know the Nintendo business.

But I really had greater aspirations. I wanted to be in the software business, not the licensing business. So in our conversations with Nintendo, we started talking about who were some of their American licensees that maybe could use some infusion of capital and some management. Activision's name came up. I knew Activision pretty well, not just from having been in the business for a long time, but also from having played the games. Strategically, they had some issues as far as whether or not they were committed to the games business — they'd sort of veered off into productivity software. And so, in 1989, we thought maybe we should take a look at Activision.

NG: What did you see?

Bobby: I didn't see Activision as a good platform. It still had a \$20-million-or-so market cap, it was losing boatloads of money, and it seemed like they were sort of flailing directionally. Then, a year after I started watching closely, the company lost a patent infringement judgement to Philips and the market value of the company dropped to \$2 million. They were insolvent.

At that point, I looked at it and thought, "You know, for \$2 million I could buy what is definitely a very recognizable brand name in the videogame business." Here was a company that has a great library, worldwide distribution — although it was a bit compromised — and some really good technology. This was around 1989 or 1990, CD-ROM drives were just



being introduced, and these guys had already shipped *The Manhole* and a couple of other games. They'd also developed and now owned a really good cross-platform multimedia authoring tool that was CD-ROM-based. And I looked at all of this, and I thought that for \$2 million it was worth a shot. So my partners and I bought a 25% interest, and then the board gave us control of the business. In a couple of months, we became the largest shareholder.

It was an insolvency, so it took a couple of years just to get out of the financial mess that had been created there. Once we did that and restructured the company and moved it down to Los Angeles, we then started to commit capital to the business and raised some more financing.

NG: What was your plan?

Bobby: We looked around and saw that, other than Electronic Arts, there really weren't any well-managed, strategically institutionalized, professional competitors in the videogame business. But it was clear to us that there needed to be. This was a business that would continue to grow. Games were a legitimate entertainment category.

I think the crash of Atari had left such doubt in the minds of particularly institutional investors about the potential for stability and growth in the videogame business that people underestimated the real size of the opportunity. But we looked at it and said, "Here's an opportunity to take — for not a lot of money — this brand name, this library, some of this technology, and turn it into an effective competitor to Electronic Arts."

NG: And is this still your goal?

Bobby: The vision for the business really has not changed in what's now my ninth fiscal year, and that is to be the *other* institutionalized competitor in the industry. I have great respect for Electronic Arts and a lot of what they've accomplished, but I definitely think there is room for another company. Now, whether we're the number-one or the number-two company — preferably the number-one company — I think that vision hasn't really changed.

NG: How can you compete for a number-one or -two position when your release schedule is so much smaller than not only EA's but also GT's and Eidos'?

Bobby: I would disagree with that. I don't know what the numbers of titles are, but I disagree on two fronts. First, I think we are competitive in terms of the number of titles on the release schedule, with say an Eidos or a GT. We released 40 titles in the last fiscal year, and we'll probably release 60 titles in the fiscal year 2000.

But that's only part of the story. If Eidos had only released *Tomb Raider* and hadn't released anything else, they would have had a much greater financial success. And I think we are definitely a different company than a GT. We've taken the long road to build a very solid foundation for the future. We haven't been taking short cuts to build the revenue base. We've been very focused on building a solid foundation for the



future. We've been hiring the highest caliber of people throughout all areas of the business and expanding at a rate that's appropriate. This means that there will be stability for the future, and we will be strategically focused.

KEEPING THE TALENT HAPPY

NG: You mention a need for the very best development talent, whether internal or external. **Next Generation** just ran a piece on Pandemic, the team behind *Dark Reign* and *BattleZone*. These guys used to be Activision employees, and now they've set up externally and are developing the sequels for you there. Would you rather have your talent in or out of the building?

Bobby: This business is crying out for people to focus on a smaller number of high-quality titles. It's moving toward the movie model of a smaller number of really high-quality, well produced, and well marketed releases which will drive the business. We're in L.A. so we see

If Eidos had only released *Tomb Raider*, and hadn't released anything else, they would have had a much greater financial success [last year]

it, but every one of the movie studios has moved to a model of a smaller number of really high-quality, well produced, and well marketed titles.

It's the same with games. Over the last few years, we realized there was a trend, particularly in the more hobbyist, enthusiast, PC-oriented market, that great products are unpredictable, take a very long time to develop, are usually somewhat unbranded, and can't

really be rushed to market. We realized a more appropriate business model would be to have a small number of external developers making those products.

It just so happened that with Pandemic, especially Andrew [Goldman] and Josh [Resnick], the two principals, we had a group of people who had demonstrable entrepreneurial instincts and good professional skills. They had a good, distinguished, and successful careers here at Activision, doing what they said they were going to do constantly. Truthfully, if Josh or Andrew didn't want to go into the software business and had wanted to go into the brokerage business or the chocolate-chip-cookie business, I would back them. I would back those guys in any business.

NG: So you're a believer in harnessing entrepreneurial drive?

Bobby: The idea is there are some people who would be better off running their own independent operations. And we felt that rather than be in the situation that many of our competitors have found themselves in, where they were losing teams and talent to us, that we would be very proactive about it. And by leaving Activision, they could reduce our overhead burden and take their time to ensure that their product quality was where it needed to be.

NG: And you'll continue looking for external teams like them?

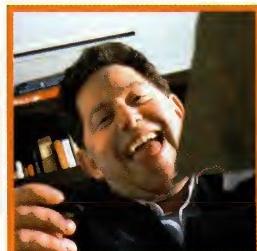
Bobby: We will keep continuing to make investments in people who have a demonstrated capability of delivering high-quality products on time and within a budget. We've continued to do this with guys like Savage and a couple of others.

We have also substantially grown our studio. We have added Madison, Wisconsin, and with the acquisition of Raven, we have added Head Games. We will continue to add studio operations. We now have a fully functioning studio in Europe and a fully functioning studio in Japan.

UP FOR SALE?

NG: Certainly the number of acquisitions in the videogame business is on the increase. Last year there plenty of rumors that Activision itself would be bought. Was this simply the market getting overexcited or was a takeover ever a real possibility?

Bobby: In recent times, the movie studios have tried to get into the interactive entertainment business and have failed. Some of the large media and communication companies have tried to get into this business, and they've also failed. Most of these failures are attributable to companies feeling that the barriers to entry were not that great, a belief that they could put a lot of money up and ultimately build their own businesses by capitalizing on either their intellectual properties or what they perceive to be the synergies between linear entertainment and our business.



Ultimately, however, they were all — without exception — unsuccessful.

Now, I think there is a growing realization that if you want to be in the interactive entertainment business, the only way to successfully enter it today is through acquisition. And, you know, there aren't a lot of well run, historically profitable, independent companies in this business. Activision is one of them. So as long as outside people continue to want to participate in this business, it's only natural that you're going to see inquiries and conversations of that sort.

NG: So are you looking to be bought out?

Bobby: As a management team, we are very committed to continuing to run Activision. We're not really interested in being anything other than the leading independent company in the category, so we're committed to continuing to build and grow this business on our own.

But, we're a public company, so I think we have an obligation to our shareholders to entertain the conversations when they occur from time to time. Generally speaking, though, we're very focused on an independent strategy.

NG: So how close are you to reaching your goals?

Bobby: We have not achieved our objective yet, but we have been closing the gap. With acquisitions for this fiscal year 2000, which we start on April 1, we will probably be somewhere between \$750 million and \$800 million in revenues. We have been growing our earnings at a 33% compounded annual growth rate in earnings per share. We have been growing our revenues at close to a 90% compounded annual growth rate over the last four years. That is almost three times the revenue growth rate of Electronic Arts, and it is a 50% higher earnings growth rate. We are closing the gap. I think within the next three years our revenue base will be fairly close to that of Electronic Arts.

THE IMPORTANCE OF GAMES

NG: Ultimately, though, perhaps the best measure of a company's success is the quality of its product. Would you agree that both *Sin* and *Heretic 2* didn't live up to expectations?

Bobby: Do you mean from a sales standpoint?

NG: Yes, for *Heretic 2*, but critically, *Sin* wasn't as good as had been hoped for. What went wrong?

Bobby: I think each case is very different. *Heretic 2* met our sales expectations, but it didn't exceed them. It should have, though, because the product quality



was there. It was a well regarded, well reviewed product, but it just didn't break out. I think it was launched at a time when there were a lot of other interesting things going on. The *Heretic* franchise maybe wasn't as popular or as strong as we had expected it to be. And also, it was a fairly radical departure from the original *Heretic* product, and I think that was something that probably caught the audience a little bit by surprise.

NG: What about *Sin*?

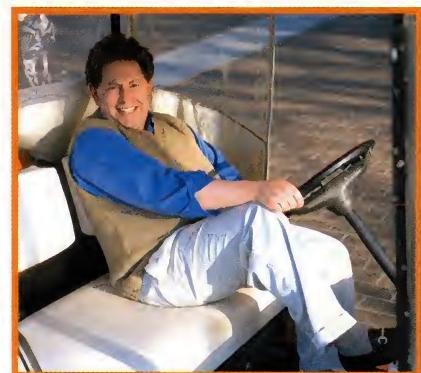
Bobby: In the case of *Sin*, quite honestly, I think Ritual [the developers] got distracted. They became part of the G.O.D. group, they were out raising money and were less focused than they needed to be, and they started second projects. A natural consequence was they didn't polish the product to the level that they needed to. They didn't pay attention to the quality-assurance issues the way that they should have.

Ultimately, they delivered a good quality product but one that did not achieve the expectations of the consumer the way *Half-Life* did. I think had they gotten the product out a little earlier and addressed some of those quality issues, it probably would have performed much better than it did.

NG: *Vigilante 8*, on the other hand, was one of your best-selling games last year. It grew from *Interstate '76*, which was a good game but was probably not packing that much weight in terms of brand value. So how did you manage to compete so well against *Twisted Metal*?

Bobby: You talk about focused and committed and inspired — there are very few developers that are as capable or are as extraordinary as Luxoflux, and they did an incredible job. I think the product quality speaks for itself. I also think that we had great marketing execution on the product. Our television creative was excellent, and a lot of our marketing activities and retail strategies, I thought, were really well conceived. Overall, it was one of those products that exceeded our expectations. I think we are going to have a second bite at the apple with Nintendo, and then another when *Vigilante 8: Second Offense*, which will be the sequel, will be simultaneously shipped on a number of different platforms.





NG: One of the things that's always helped Activision stand out from the pack is your willingness to put your back catalog of games to work...

Bobby: This is our 20th year in business. Our back catalog goes back to 1979 and includes franchises like *Pitfall* and *Kaboom!* and *River Raid*. My friends, who have been playing games since the early 1980s and are still playing games today, they remember the *Pitfalls* and the *Kabooms* and the *River Raids* because those games were unique and special at the time. There's a lot of equity there.

But I think we've made some mistakes in the past in not delivering games that live up to the expectations

We're not going to release another *Pitfall* until it's going to deliver the same kind of revolution that we had from the original *Pitfall* on the Atari 2600

of the franchise. *Pitfall* on the Atari 2600 was a revolutionary product, and so people start expecting every *Pitfall* game to be revolutionary. The last *Pitfall* that we released on the PlayStation didn't really do that. So we're not going to release another *Pitfall* until it's going to take full advantage of the capabilities of the hardware and deliver the same kind of revolution that we had from the original *Pitfall* on the Atari 2600.

NG: What about *Zork*?

Bobby: It's the same. The originals were great, but the market is evolving away from adventure games. We struggled with what to do with *Zork*. We'd released the ninth *Zork*, and we just sat down and very introspectively said, "You know something? This franchise is too valuable to this company." We felt that if we couldn't deliver something that's really fresh and really different, then we should take a breather. We should get back to the drawing board and try to figure out what the consumer wants from *Zork*.

The franchises we have in our library are so revered by the core consumer that I think we're almost the custodian. We almost have an obligation to the property and the consumer to live up to their expectations.

IT'S GOOD TO TALK

NG: The PC charts these days don't seem to reflect product quality at all. It seems that all you need to do is come up with something that's well packaged with some kind of easy-to-grasp concept that Wal-Mart customers immediately understand. Would you agree?

Bobby: I don't believe so at all. The bar is continually getting raised. Where a year ago the barriers to entry maybe were low on the PC casual-consumer marketplace, now standards are getting higher. I mean, if you look at the difference between the shooting products that we released a year ago and *Remington Top Shot*, which we just shipped for Christmas, you will see a big difference.

Wal-Mart was telling us some interesting statistics the other day. Their casual consumer, who maybe buys *Cabela's Big Game Hunter*, one of their best-selling products, is now coming back and looking for more products. That customer is now willing to try things that maybe they wouldn't have tried historically, like *Quake* or something they've never really played before.

NG: And do you see the tastes of these casual gamers continuing to evolve?

Bobby: I think the expectations are going to continue to rise as interactive entertainment becomes more of a mass-market pastime. We have certainly seen that on the console side.

On the PC side, a combination of lower price points, better price performance ratios, the fascination of the consumer with the Internet, Windows 95 making the PC much easier to use than





it has been historically — a lot of trends indicate that the mass-market consumer is the primary growth area for PC entertainment software. I don't know the exact numbers, but if you were to look at '97 compared to '98, I would bet you that all the growth came from casual consumption, and that the core consumer had a fairly stagnant amount of growth.

NG: Why has the core market stagnated?

Bobby: Part of the reason is that the level of innovation for the core consumer has not been where it needs to be. A lot of product is getting stale, and you can take this sort of sequel strategy only so far. There haven't been a lot of really breakthrough products.

NG: So is it the mass market that will call the shots in the future?

Bobby: If I were to rank the growth opportunities for the next couple of years for Activision, the mass consumer on the PC would be very high up that list.

NG: What about the new generations of consoles? How do you juggle developing games for the hardcore gamers on the new systems and the mass-market gamers on the old ones?

Bobby: The big picture is there are products and properties that are appropriate to different platforms at different times in the cycle. Disney and Marvel are great examples. We're doing *Spider-Man*, *X-Men*, and *Toy Story*, we've got a Buzz Lightyear product, we've got *A Bug's Life* and *Tarzan*. A lot of the properties that we've acquired control over are properties that have historically performed very well in the later part of the console cycles. They align themselves with an evolving customer base, as you move down the price curve on hardware and software. And we're constantly going to deliver in that expectation.

On the next generation of hardware there is opportunity to innovate, there is opportunity to establish original franchises, and the expectations of the consumer are different than the consumer that's buying a \$99 PlayStation in year five of its release. So we've very committed to an early launch strategy across all the new platforms with some fresh, innovative, and interesting product.

NG: And what's your strategy for making sure you

deliver the games that these new markets want?

Bobby: We brought in a president five years ago who spent his entire career at Procter & Gamble in the consumer-products business. We didn't bring him in because we thought the games business was becoming so much more like a packaged-goods business. We brought him in because the research at these consumer package-goods companies was so focused and so effective. They begin by spending an incredible amount of time, energy, and money in really understanding the expectations of the consumer.

We think this is a good way of doing business, and we've changed the whole direction of our studio strategy from, I don't want to say idea- or talent-driven model, but a sort of an "in a vacuum" concept creation to really focusing on spending a lot of time with our consumers, understanding their needs and expectations and making sure the products we're creating and delivering will meet or exceed their expectations. I think moving to this model represents a fundamental change in our business.

If I were to rank the growth opportunities for the next couple of years for Activision, the mass consumer on the PC would be very high up that list

NG: And do you find that gamers know what they want? Or is it more a matter of them recognizing it when they see it?

Bobby: We've found in a lot of our research activities that interactive-entertainment consumers are really smart. They can articulate what they're looking for in products, in future products, in feature sets, and in concepts. If you really take the time to methodically listen to the customer, they will tell you the kinds of things they're interested in.

The next step is the hard step, translating what they say they're interested in into something that delivers beyond their expectations.

NG



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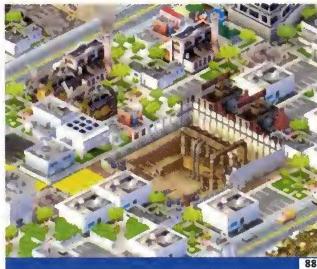
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A high-quality and inventive new game. Either a step forward for an existing genre or a successful attempt at creating a new one.

★★ Good
A solid and competitive example of an established game style.

★★ Average
Perhaps competent — certainly uninspired.

★ Bad
Crucially flawed in design or application.

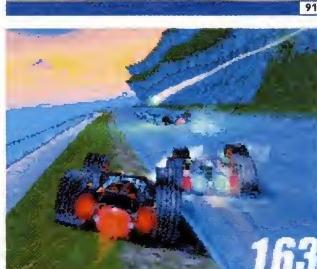
 Denotes a review of a Japanese product.



88 **SimCity 3000** PC
A classic just gets better



91 **Beetle Adventure Racing** N64
All Volkswagen, all the time



92 **Rollcage** PlayStation
Something to do until the next *Wipeout*

Goemon's Great Adventure Nintendo 64 93



Vigilante 8 Nintendo 64 93



In the Zone 99 PlayStation 94



Invasion from Beyond PlayStation 94

Shadow Madness PlayStation 94

Army Men II PC 95

Myth II: Soulblighter PC, Mac 95

The Settlers III PC 95



Publisher: Electronic Arts
Developer: Maxis



What goes on under your city is as important as what is on the surface. The improved pipe system makes managing your city's water supply much less annoying than in *SimCity 2000*.

Nothing revolutionary here, but **Maxis' latest installment in city simulators is a solid addition to a classic franchise**

SIMCITY 3000

After nearly five years and a complete design overhaul (from a fully explorable 3D world back to the traditional, isometric 2D view), Maxis has graced us with *SimCity 3000*, the next iteration of its insanely popular city-building series. Those who played *SimCity 2000* will find things instantly familiar (maybe too much so), while newcomers will be treated to one of the greatest time-devouring games ever created.

For the handful of you out there that may not know the idea behind the *SimCity* games, here's the deal: You're given an empty plot of land and a suite of tools with which to build your dream city. You start by zoning sections as residential, commercial, or industrial, adding necessities such as power plants, police stations, and schools as well as providing amenities along the lines of parks, zoos, and marinas to make SimCitizens want to live in your burgeoning metropolis. Basically, it's a strategy game that requires you to balance your finances while keeping your population content and growing. Perhaps one of the most compelling aspects of the *Sim* games is their lack of a win/lose scenario. You're never forced to do things a certain way, and the



The type of bridge (in this case, we see the Golden Gate, a suspension bridge) that will be built depends on the amount of water it must span

right and wrong of the gameplay is determined by your idea of the perfect city. A densely packed, skyscraper-infested, highly polluted megalopolis is no better or worse than a sprawling farming community with clean air and water. It's up to you how you want to proceed.

The basic gameplay has remained pretty much untouched from the previous version, although some tweaks have been made to make managing your city easier, and a few new elements

have been added to increase the scope of your mayoral duties. Of course, the graphics have been given a good spit and polish (with many more building types appearing as your city grows), although they're not the huge step up some might have expected after such a lengthy development cycle. There is also a selection of map sizes to play on, the largest of which is four times the size of *SimCity 2000*'s.

The biggest addition to the *Sim* series is interaction with neighboring cities. Once you make a connection to them via road, rail, water pipes, or power lines, you'll be able to make deals to trade resources. While you can't initiate a deal, they will frequently make offers to either sell you their excess goods and services or request that you provide them the same. One of these "goods" is another new, but smelly, addition to the game: waste management. All of your zoned areas will produce a certain amount of trash that must be dealt with. The most basic way is to build landfills, but as you can imagine, these are not



SimCity 3000 includes some sample cities, showing you the many options you have when constructing your own, depending on whether your tastes run to rural or urban living





A huge selection of world landmarks is available to spruce up your landscape, but you're limited to only 10 per city. Maxis is promising more will be available at its web site from time to time; check out www.maxis.com



Your SimCitizens love being entertained, and on occasion, they'll request that you build amenities such as this stadium

only an eyesore but also a major contributor to pollution. If you have the cash (or simoleans, as money is called in the *SimCity* universe) and a transportation route, you can ship your unhealthy waste to one of your neighbors. Doing business with your neighbors adds another layer of depth to the simulation and can be a great way to either get your economy back on track or to free up some much-needed land that would otherwise have to be devoted to managing waste or supplying power and water.

Tweaks include a much simpler water-pipe and power-line system as well as a ticker that runs across the bottom of the screen that keeps you apprised of the issues your people expect you to deal with. When an important item appears from a neighbor, petitioner, or one of your seven departmental advisors, you can simply click on the entry to deal with the request, complaint, or offer.

As gripping and enjoyable as *SimCity 3000* is, there are a few problem areas that have to be mentioned, the system requirements being foremost on the list. There are plenty of ways to adjust the graphic levels, but even on Pentium II-400 with 64MB RAM running at a fairly conservative 800x600 resolution, the game has a tendency to chug. Screen redraws can take a while, and loading times can be excruciating. Those with lower-end systems are warned that a lot of sitting around and waiting will be in their future. Also, the indicator that tells you



Three of the biggest causes of pollution in your city are heavy traffic, festering piles of garbage, and much-needed commerce-boosters such as airports

which of the three types of zones are most needed tends to be somewhat arbitrary, fluctuating from high to low seemingly at random. Finally, there just may not be enough new material to attract those who burnt themselves out on *SimCity 2000*. For the most part, though, *SimCity 3000* is great fun and loaded with interesting, mind-absorbing gameplay.

RATING



You can start a new city using the random terrain generator or simply choose from a collection of real-life maps including San Francisco, New York, and Seattle



There are plenty of charts and graphs available to keep you abreast of your city's constantly changing status. A successful mayor is one who knows how to decipher the data properly



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It may seem like a silly idea for a game, but this all-Volkswagen racer is actually **worth more than a look**



Publisher: EA
Developer: Paradigm

More than two years after the release of N64, EA has finally brought something beyond its major sports franchises to the platform. Originally conceived as a 64-bit entry into the *Need for Speed* franchise, *Beetle Adventure Racing* takes the series' true-life physics and super-charged races and mixes in some Nintendo-style level design. The outcome is a refreshing take on the racing genre that often plays more like the latest platformer from Rare or NCL than a racer from the country's leading sports publisher. But instead of sticking cutesy animals into go-karts, EA signed a deal with Volkswagen to create a game around the "new Beetle."

Imagine *San Francisco Rush* with great sound and graphics. The marked difference from Atari's stunt racer is that despite outrageous tracks and plenty of air time, the game's four-point physics model is



Beetle Adventure's Wicked Woods track leads from a dark and spooky forest right into the middle of an old-fashioned haunting



ladybug icons that are hidden throughout the levels while fending off opponents armed with the likes of mines, rockets, and magnets.

While it seems like every other title coming out for N64 is a racer, there are surprisingly few really good ones. *Beetle Adventure Racing* not only emerges as one of the best, but its level design will also serve as a watermark that other franchises like *Top Gear* and even EA's own *Need for Speed* will have to live up to.

Hidden surprises include a crashed UFO, a hungry T-Rex, a fire-breathing dragon, a pirate ship, and a haunted mansion

surprisingly realistic. Next to perfecting hand-brake-induced powerslides, the key to beating the opposition is to find the best route through each of the six stages. Follow the road and you'll speed

down cobblestone roads and muddy jungle tracks — but it's the shortcuts that make the game come to life. Hidden surprises include a crashed UFO, a hungry T-Rex, a fire-breathing dragon, a pirate ship, and even a haunted mansion. Many of the secret paths

seasoned N64 developer Paradigm, creator of *Pilot Wings 64* and *F-1 World Grand Prix*, which came up with an impressive 3D engine that pushes huge amounts of polygons. Even on the game's simple tracks, the complexity and detail of *Beetle Racing*'s environments far surpasses other N64 racers. Besides the usual lens flares, sparks, and tire marks, *Beetle Racing* impresses with the best reflection- and environment-mapping on N64.

Unfortunately, the game's Beetle license is also its biggest problem. The recently resurrected "Love Bug" will no doubt prove to be popular with a variety of age groups, but the lack of other car models also limits the player's willingness to compete for new rides. Although the designers included a few alternate Beetles with differing decals, the distinctions are negligible.

Thankfully, *Beetle Racing* offers enough replay value through its multiplayer options. Next to a two-player mode on the six regular tracks, the game also features nine "battle tracks" that offer *Mario Kart*-style competition for up to four. The objective is to find different colored



The developers figured out a neat trick to simulate environment mapping that reflects track elements on the Beetles' shiny surfaces



Indiana Jones and Jurassic Park seem to have been the inspiration for the game's Inferno Isle track (top). Paradigm's 3D engine handles lots of roadside detail (bottom)



Publisher: Psygnosis
Developer: ATO



As we've come to expect from Psygnosis, the game is full of spectacular lighting effects. However, unlike what we've seen from Psygnosis lately, they never interfere with gameplay

A fast, colorful racing game proves that Psygnosis has a few good games to offer after all

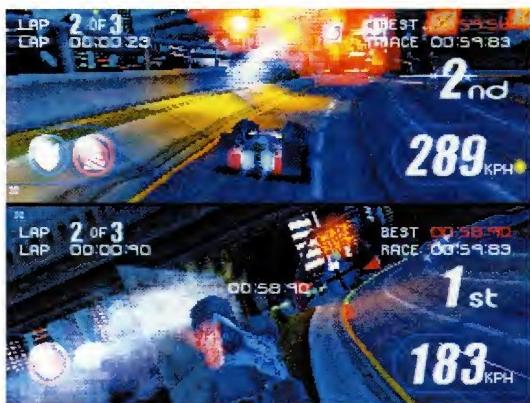
ROLLCAGE

Psygnosis' record hasn't been too stellar lately, with games such as O.D.T., Psybadek, and Blast Radius taking up prominent positions on its release schedule. Thankfully, however, there is still some good stuff coming out of the company.

The idea behind *Rollcage* is simple: fast cars and lots of weapons. The vehicles in *Rollcage* do not have a specific top or bottom; instead, the cars have huge tires that allow them to flip over and keep driving without a problem. This unique driving mechanic is the game's main draw.

The tracks are designed to allow maximum carnage. Much of the environment is easily destroyed, and part of the game's strategy involves the deliberate destruction of buildings and signs surrounding the track. Shooting a building as you zip by allows you to pass but creates an obstacle for your opponents to navigate. Another reason to be liberal with the weapons is the hidden shortcuts, which can be found tucked behind buildings or other objects in the environment.

The weapons in *Rollcage* are a creative lot. There are the standard missile weapons and



The two-player split screen option is among the best-executed of such modes in any racing game since, well, Wipeout

turbo power-ups, but in addition to these expected examples are weapons like a warp gun that will pull your car up one ranking, a missile that will track the first place car, and a time stopper. Each car can hold two weapons at once, which enables some creative attacks. For example, a skillful driver can move from sixth place to first in a single shot using the time stop and the turbo boost at the same time.

For the most part, *Rollcage* is a great game, but it does have a

few problems that prevent it from being a five-star title — the most annoying of which is the control. Though generally solid, when the car gets turned around in a narrow portion of the track, more often than not you'll end up starting to straighten out only to hit the other wall and end up back where you started.

In most driving games you can simply turn away from an obstacle when the car bumps up against a wall or building — but not in *Rollcage*. If the car is against a flat surface, turning the wheel will only cause it to slide along the surface. You must reverse and maneuver away from the wall before being able to drive away. A game bearing the tagline "No Rules Racing" shouldn't have hang-ups like this.

While these and other minor flaws mean that *Rollcage* isn't going to be the next *Wipeout*, it is an excellent racer in its own right. Anyone with a hankering for fast cars and pretty explosions should be sure to give *Rollcage* a chance.



Driving on the ceiling, up walls, and flying through the air is an integral part of *Rollcage*'s gameplay dynamic — and if you wind up flipping over, no problem, since the cars' big, knobby tires will keep you moving

RATING



GOEMON'S GREAT ADVENTURE

Platform: **Nintendo 64**
 Publisher: **Konami**
 Developer: **KCEO**

After venturing into *Zelda* territory with its first N64 incarnation of the *Mystical Ninja*, Konami has gone back to the gameplay style that made the *Goemon* series famous in Japan. *Goemon's Great Adventure* attempts to resurrect old-school 2D sidescrolling by adding fancy 3D graphics and breaking up the action with 3D mech boxing matches. The story is vintage *Goemon* stuff — in other words, it makes no sense at all. *Goemon's* mentor, the Wise Man, has invented a "Super Gorgeous Ghost Return Machine," a device that breaks down the barriers between the world of the living and the realm of the dead. The idea is to bring back deceased female stars such as Marilyn Monroe and famous beauties from Japanese folklore. Unfortunately, the evil flying nun Bismarck turns up yet again and hijacks the device in order to bring life to the Lord of the Underworld and unwittingly curses medieval Japan with thousands of little ghosts and goblins.

The game offers the same four playable characters as its predecessor: Goemon, Ebisumaru, Sasuke, and Yae. Characters sport unique abilities that enable them to reach areas that remain locked to other members of the cast. While most of the action is standard sidescrolling fare, some limited RPG elements and intense 3D



Goemon's Great Adventure: 3D characters, great 2D gameplay

mech "tag team" battles make *Goemon* stand out from the rest. Multiplayer fans will also be delighted by the excellent two-player mode, which, for once, stresses teamwork over competition.

Sadly, Konami of America's localization efforts haven't been too kind to the KCEO-developed title. Although the translation retains the Japanese names and wacky feel, the U.S. version lost all of the amazing music that appears at key moments in the game, including the opening song. But even without the songs, *Goemon's Great Adventure* emerges as a much better game than its predecessor — and, like the *Crash Bandicoot* series, shows that not every game needs to be in full 3D to be fun.

RATING ★★★★☆

BLAST RADIUS

Platform: **PlayStation**
 Publisher: **Psygnosis**
 Developer: **Camden Development Studios**

If every bad idea that came up during the production of *Colony Wars* was rolled into one game, *Blast Radius* would be the result. The only positive thing that can be said about it is that it looks good: the developers know how to do colored lighting, and it shows. All flash and no substance, however, does not make a good game.

The problems start as early as the main briefing screens. The mission briefings scroll by automatically, faster than most people are going to be able to read. Because the game only has a five-line buffer on screen, it's easy to miss something and have to replay it

at least once. Of course, even reading the standard text can be a chore — *Blast Radius* uses what is arguably the worst screen font ever.

The game features 10 levels, with four missions each, and you have to finish the first three missions before you can save the game. With only one life, the limited saves become simply annoying, especially in the later levels. Interestingly enough, the game won't overwrite its own saves. Instead, it writes a new block to the memory card until it's full, then you have to manually delete saves to make room.

Once into the gameplay, *Blast*

VIGILANTE 8

Platform: **Nintendo 64**
 Publisher: **Activision**
 Developer: **Luxoflux**

While the car-combat genre has been a hotly contested one on PlayStation, it never really made itself felt on N64 until now. How appropriate, then, that this is a port of perhaps the best PlayStation offers in this category.

Spun off from the lucrative *Interstate '76* license, *Vigilante 8* is all about '70s cars with heavy artillery fighting it out in several varied locations. Forget all pretense of a storyline because what this game offers is plenty of action. Choose from one of several different autos, each with its own special weapons, and then run the gauntlet in several different goal-based missions, such as defending your bases against enemy attacks. Honestly, there is little to do here other than drive around and



Vigilante 8 was great for PlayStation, and with its new multiplayer modes, it's even better on Nintendo 64

RATING ★★★★☆

shoot other cars, but the mission-based structure of the game gives the player a purpose and keeps the action from becoming monotonous.

The graphics aren't anything to write home about, though, and they look like they were just pulled right over from the PlayStation version. While it looked nice on that system, it probably could have used a little more beefing up (although it still looks quite good). Sound is also good, but again, short of excellent. Luckily, the important part of the game, the gameplay, is not only intact but has been improved with new multiplayer options that make it really shine.

We all know that while single-player gaming is fun, there's nothing like shooting up some friends. This is what car combat games are all about, and *V8* is no exception. It is this aspect of the game that has been improved upon the most for this version. Now you can play up to four players in a grand melee deathmatch via split screen — or, if you're feeling friendly, there's also an all-new multiplayer co-op mode. Either way, you're going to have lots of fun, and the single-player is no slouch either. If you're craving some driving action with guns for your N64, this is the title to get.

RATING ★★★★☆



If you like tedious, boring, badly made space shooters, *Blast Radius* is for you

Radius becomes a simple matter of survival: shoot first and ask questions later, and not much else. There are a few escort missions, but most of these involve blowing something up anyway. This is repetitive in the extreme.

Between missions you're given the chance to "upgrade" your ship, but it's more for show than anything else. Upgrades appear in a certain order, so every player follows the same upgrade path, no customization involved.

It doesn't matter how much of a space-fighter fan you are, *Blast Radius* is just plain bad.

RATING ★☆☆☆☆

IN THE ZONE 99

Platform: PlayStation
Publisher: Konami
Developer: Konami

History has repeated itself. Despite new additions to balance gameplay in the single-player game, Konami's update to its once-dominant series is barely an improvement over its predecessor and leaves a wide gap between itself and the competition.

Before digging into the mud too deeply, however, several positive changes deserve to be mentioned. As always, the two-player game is sweet, highlighting the game's inherent strengths. Player movement is nicely motion-captured, filling the court with a litany of fluid passing, shooting, and dunking animations. Only occasionally can you spot a mechanical stutter. Fade-away jumpers, inside-the-key double fakes, and switch-over lay-ups are all well implemented.

Another excellent aspect of *In the Zone* is its one-player variety. Play modes such as the Three-Point Contest, the Slam Dunk Contest, and the All-Star Game balance out the standard Exhibition and full NBA Season. And a number of other solid options round out the level of control you have over how you play the game.

But what's always hampered the *In the Zone* series is its single-player action. This year's series is no different. Non-existent AI, easy steals, and a slew of defensive problems still hamper its gameplay. Some aspects of the game are just silly. Rainbow bounce passes from one side of the

court to the other take place regularly without an AI defensive man picking them off. Just like last year, steals are so easy you feel like you're playing *NBA Jam*, and some of the sound effects (the extra-loud backboard, the buzzer, and the announcer) are out of balance and badly reproduced.

Once considered the pinnacle of NBA hoops games, *In the Zone 99* appears to be a mere shadow of its one-time glory.

RATING



In the Zone 99 is fine as a two-player game, but the single-player AI is the pits

INVASION FROM BEYOND

Platform: PlayStation
Publisher: GT Interactive
Developer: King of the Jungle



Invasion from Beyond is a travesty. Nothing else need be said

An open message to game developers — if you want your game to be fun, don't make the player read a mission-update screen every 60 seconds. It is annoying, annoying, annoying. Unfortunately for *Invasion From Beyond*, a vaguely 3D shooter, frequent text screens popping up in the middle of everything are the least of the game's problems.

Built on a good premise, that of an alien invasion themed after the classic "flying saucer" movies of '50s Hollywood, *Invasion From Beyond* completely falls apart in its gameplay. Aside from the annoying status screen, which stops everything at least once a minute, the game has controls which can only be defined as "loose." Although the game supports the analog sticks, the player never has a solid sense of control.

The actual play areas vary in size but can be disorienting because there are no sides to the play areas. Imagine

a world a few square miles in size, and you have the areas in the game. Attempting to navigate by landmarks can be a chore when something that was on the left is suddenly on the right because you strafed a wee bit too far and wrapped around.

About the only thing this game does right are the pre-mission interface screens and the colored lighting used on some weapons. Aside from the pretty glowing orbs, however, the visuals are bland. Both the enemy ships and the environment are blocky and uninteresting. Had it been released three years ago, *Invasion From Beyond* might have looked good, but when compared with today's titles, it just looks dated and ugly.

Don't let the cool retro box art fool you. This game deserves to be passed on, even when it's staring up from the bottom of the bargain bin.

RATING



SHADOW MADNESS

Platform: PlayStation
Publisher: Crave
Developer: Craveworld



Shadow Madness tries hard to emulate Japanese console RPGs, but comes just shy of succeeding

With the release of *Shadow Madness*, Crave has stepped up to the plate to deliver one of the first domestic RPGs with all the trimmings of a traditional Japanese title. Centered around the journey of three hapless adventurers, *Shadow Madness* draws its name from an epidemic spreading throughout the land which causes insanity in its victims. Stinger, the main character in the game, is forced to leave his home in search of help due to the plague.

The game's storyline is the real meat of *Shadow Madness*. Chock-full of intelligent references, silly humor, and some interesting concepts, the

game tries its level best to outdo what game makers in Japan seem to have already patented. But, aside from a rather remarkable storyline, what else does the game have to offer?

Visually, this smacks of *Final Fantasy VII*, with 3D polygonal characters placed atop gorgeous pre-rendered environments. Indeed, *Shadow Madness* seems a clever parallel to many games that have come before. It's got the world-view down, and the story is deep, so what's missing? Two of the most important features that make any RPG truly memorable: character design and an intuitive battle system.

Shadow Madness' rough character designs will surely distance players accustomed to cute and attractive anime-style characters, while the game's shoulder-button-triggered battle menus are simply too obtrusive and cumbersome for the constant flow of combat inherent in any console RPG.

While these features may point to a bias in judging RPGs only against what's come before, *Shadow Madness* comes nowhere near breaking any new ground to prove the bias unworthy. Ultimately, Crave's game emulates the genre well, but does little to enhance it.

RATING



ARMY MEN II

Platform: PC
Publisher: 3DO
Developer: 3DO

The original *Army Men* had a cute premise and very little else. A realtime strategy game featuring plastic army men, it had little to offer that couldn't be found in other RTSs and suffered from poor control and unoriginal level designs. Plus, the little plastic army men weren't treated any differently than "regular" soldiers — no M-80s, no lighter fluid, no magnifying glasses. Still, it was a best seller, so now we have *Army Men II*.

That said, it's a step up from the original. While the game is still sprite-based graphics controlled from a top-down perspective, rather than the typical realtime strategy gameplay structure, the emphasis is on squad-level combat. One appreciated feature is that Sarge and his platoon of green soldiers occasionally pass through a portal to our world, where the little plastic soldiers have to contend with such dangers as hot stove tops,

cockroaches, and (yay!) M-80s and disposable lighters.

It's a lighthearted approach that's hard to resist, but there are problems here, too. First of all, there's too little time spent in our world, and missions set in the world of the army men are pretty typical WWII scenarios (although there are exceptions). Worse though, the control is barely better than functional — the interface lacks any precise way to break up the squad into groups and control each group separately, since it's almost entirely geared around the squad following Sarge. Men and vehicles get hung up on corners with appalling ease, and when the squad gets bunched up, they block each other's way. The soldiers' path-finding AI is also noticeably dumb.

Despite these problems, the game is still quirky and oddly addictive, with missions patterned after *Apocalypse Now* or set on a zombie-

infested island. Also, the game autosaves on a regular basis, which helps cut down the frustration factor — if Sarge is killed, it starts you over almost from where you died. If you can overlook the flaws, *Army Men II* is a guilty pleasure.

RATING



Army Men II is both different and yet no better than the original — fun if you can handle its flaws

THE SETTLERS III

Platform: PC
Publisher: Blue Byte
Developer: Blue Byte

Following in the footsteps of its predecessors, *The Settlers III* by Blue Byte attempts to continue the moderate success of this RTS series by giving gamers more control over the economic interface than was available in the previous offerings. Unfortunately, this ends up bogging down players with too much resource management while failing to offer anything innovative.

In *The Settlers III*, you assume the role of a commoner who has been hand-picked by your deity to lead your people to glory. The game is divided into three campaigns — Roman, Asian, and Egyptian — with each campaign harder than the last. At the beginning of each mission, you are presented with a briefing screen that outlines your mission objectives and offers an overview of the conflict area.

Graphically, *The Settlers III* is a solid title, and there are plenty of richly detailed buildings and terrain, but it doesn't offer up anything new in the gameplay department. The biggest problem with *Settlers III* is that there's really no sense of progress. Sure, you face tougher and larger armies as you advance through the campaign, but the game boils down to micro-managing resources until you have enough weapons to raise an army large enough to conquer the enemy.

It's mildly entertaining to construct buildings, gather resources, and trade goods, but in the end, *The Settlers III* is a disappointment, lacking the creativity needed to compete in today's overcrowded RTS market.

RATING



The Settlers III is just more of the same as *The Settlers* and *The Settlers II*, except with even more resource management

MYTH II: SOULBLIGHTER

Platform: PC, Mac
Publisher: Bungie
Developer: Bungie

When Bungie's *Myth* sprang upon the realtime strategy market last year, it quickly became a best seller due to its novelty and creative gameplay. Combining squad-level warfare with a refreshing lack of resource management, it provided a fresh perspective in a crowded genre. Many wondered, though, whether this feat could be duplicated in *Myth II: Soulblighter* or if Bungie would prove to be a one-hit wonder. Thankfully,



Myth II is every bit as great a treat as the original, and it's even easier to get involved with

Myth II delivers on all counts: It's smarter, better designed, and a true sequel in all senses of the word.

The player assumes the role of a military unit that almost literally stumbles onto Soulblighter's growing army of evil. In the single-player mode, the missions are incredibly well tied to the plot line. From the initial village attack to castle invasions to the final climactic struggle with Soulblighter's forces, the events assume a rare coherency between game and story that turns each level into part of a greater narrative. Bungie is one of the few companies that understands story as an element of the game, and it has learned to exploit it for full effect.

Thankfully, the learning curve integrates well with the new storyline. Unlike the original, which started out difficult and progressed to nigh-impossible, *Soulblighter* is accessible to those new to *Myth* as well as veterans. Units are also more accurate at the beginning, and, as a result, unit

experience grows quickly.

Likewise, the interface has been improved subtly but significantly. Although the core controls are the same, the addition of a formation control bar is a welcome one for new and experienced players. Also, the mouse-based camera controls now include intuitive turn and orbit buttons, which are quite useful.

In multiplayer mode, the games are as exciting as ever and some of the new units, such as the Warlock, are fun alternatives to *Myth*'s traditional repertoire. The new play modes are intriguing as well, with the pig-herding "Stampede" mode being one of the most unique in the business.

Myth II: Soulblighter's charm lies in a bundle of improvements and high production values that make the parts greater than the whole. While it may not have reached *WarCraft* or *C&C* status yet, the series is deservedly a growing legend in its own time.

RATING



ADVANCED STRATEGIES

How developers play their games

MYTH II: SOULLIGHTER

SYSTEM: PC/MAC

PUBLISHER/DEVELOPER: BUNGIE SOFTWARE

INTERVIEWED: JASON REGIER, LEAD PROGRAMMER; MARK BERNAL, LEAD ARTIST/ART DIRECTOR



JASON REGIER, LEAD PROGRAMMER; MARK BERNAL, LEAD ARTIST/ART DIRECTOR

Next Generation: For someone playing *Myth II* for the first time, do you have any general tips or hints on how best to become an expert? What kind of strategies do you suggest for the overall game?

Jason Regier: Practice, practice, practice! I think people will enjoy the game most if they work their way slowly through the single-player maps. Once you've mastered the basic control of your troops, log on to Bungie.net and test your mettle against the people there. Bungie.net has unranked rooms specifically for new players, so don't be afraid to log on and learn from other players. For overall strategies, I think the best advice is *be patient*. Don't send your troops headlong into battle — try to engage the enemy at the location that is most advantageous for you. And don't forget that double-clicking selects all nearby units of a single type! I see too many players wasting time trying to accurately band-select their units. Double-clicking allows you to quickly select your missile units and pull them back while your melee units attack.

Mark Bernal: Formations play a key role in successfully playing and winning *Myth*. *Myth II* is almost like a chess game. You must plan out how a battle will unfold. An example might be to place your archers in a long line in front of your warriors or berserkers. Then place your dwarves on the wings of your formation. Use your archers to fire on and provoke the enemy. When the enemy gets close enough, command the dwarves to throw at them. Now select all the archers and dwarves, have them fall

back, and let the warriors and berserkers mop up the remaining enemy.

NG: What mission or specific section of the game do you find most difficult? What's your strategy for getting past it?

MB: Well, for me, it's the last level in the game (level 25) and rightly so — it should be really difficult. The key to this level is to use formations and have a lot of patience. Each of your men should be used as efficiently as possible. Every mandrake root that your Heron guards carry should be used at appropriate times and not wasted on a slightly damaged character. Another key is that King Alric is immune to Fetch lightning and that he carries Ebilis stones that should only be used when absolutely necessary.

JR: Let me answer it this way — a lot of players here were frustrated by the level "Capture Muirhemne." In this level, you take a small commando group of trow and mortar dwarves, advance under cannon fire, and try to penetrate the wall surrounding the town of Muirhemne. Those people here who found the level difficult usually didn't know the trick. They'd clump all their troops together and march right down the middle of the map, taking cannon fire from both cannons. Inevitably, a cannonball would drop right between all their mortar dwarves, killing them all, which would cause them to exclaim, "God, I LOOOOVE cannons!" Here's my advice: Keep your guys in a loose formation to minimize losses. Run toward cover when you hear the cannon fire. Most importantly, move toward the side of the map, so you're only under fire from one cannon, and you're not taking the direct approach.

NG: Which team member is the best at the game?

MB: I would have to say that the level designers are the best at the game. After all, they know when, where, and how the enemy will attack and also where the enemy's Achilles' heel is on a given level.

JR: Most people would guess that the lead programmer is the best, but I'm not. I was too busy coding to master all the intricate strategies! I'd say that Dave Bowman and Bob Settles, our level designers, are the best. They designed the levels and played them constantly, so they know all the dirty little tricks.

NG: What's your proudest achievement in *Myth II* (i.e. quickest playthrough, low casualties, satisfying kills, etc.)?

JR: It may sound lame, but I get a real kick out of the technical achievements that I make. I was ecstatic when I got animating polygonal models working early in the project. I remember placing a windmill on a level and showing it to my girlfriend, who asked, "So can guys get killed by the windmill blades?" "No..." "Well, then what good is it?" I guess some people don't understand that some special effects exist just to add to the ambience. [Laughs.]

NG: Have players discovered strategies that you never



"*Myth II* is almost like a chess game. You must plan out how a battle will unfold," says Bernal, who adds that formations play a key role in winning



expected for the game? Which ones have surprised you most?

JR: Uh, Mark?

MB: The game has just recently been released, so I haven't read or heard of any surprising strategies yet, but I'm sure some will arise. Several appeared after the release of *Myth: The Fallen Lords*. One that comes to mind is healing Soulblighter on level 25. We've done our best not to let that happen again in *Myth II*, though I suppose the player could use Fear (the attributes editor that ships with *Myth II: Soulblighter*) to make Soulblighter succumb to a healing spell. Another one was discovered in *Myth* several months after the game had shipped, and it underlined how comprehensive the physics model was. Dwarven grenades can only be thrown so far, but the blast of lightning from a Fetch could redirect them great distances. Probably by accident, someone found that if you threw a grenade over a Fetch's head, and then fired a bolt of lightning under it, the grenade would fly halfway across the map and could land deep behind enemy lines. With a little practice, one could control this pretty well, and so we had players shelling their opponents from far away. This new technique forced a change in tactics in some cases, which is cool. It was totally unanticipated.

NG: Are there any cheats, tricks, codes, or debug insights in the game that were added for personal reasons (inside jokes, etc.)? What are they, and how do they relate to the team?

JR: On "The Great Library," if you zoom in on the room, you can see a picture of our team on the walls of the library.

MB: There are plenty of Easter eggs in *Myth II: Soulblighter*, most of which have already been found and posted on the Web (but not all). One of the coolest is the secret hunting level. It's kind of a parody of the deer-hunting games but with a Bungie/*Myth* twist. The only Easter egg that really relates to the team is our team picture that appears inside the library if you poke the camera through the roof.

NG: In the course of creating the game, are there any programming artifacts left in the game? Not bugs, per se, but more like "unanticipated features" — for instance, in *Sonic 2*, players going through loops too fast can fly off and get stuck in the background, or in *Defender*, there is an invisible line in the level that changes the behavior of enemies. That's the kind of



"With the exception of the small troop numbers, which *Myth I* players seemed to enjoy, our mantra for *Myth II* was 'twice as good,'" says Reger



thing we're looking for.

JR: Those sound like bugs to me, and sure, we had our share in *Myth II*. Most of the bugs we found were hardware-related, but there were a couple that affected gameplay. I think the most egregious gameplay bug is that if you play a netgame of Assassin and you kill the ambient life (birds, deer, etc.), then you get a point. That bug, and a lot of others, is getting fixed in an upcoming 1.2 patch.

NG: What was the original, ideal concept for the game? How closely does the end product match it?

JR: When we started *Myth: The Fallen Lords*, the real-time strategy genre was starting to take off, and we thought, "Hey, let's do an RTS game with a movable 3D camera and limbs flying through the air, but we'll get rid of the resource management and focus more on the battle." We had visions of *Braveheart*, with lots of troops clashing on the battlefield, but we ended up scaling back the number of troops for the final product. With the exception of the small troop numbers, which *Myth I* players seemed to enjoy, our mantra for *Myth II* was "twice as good." We doubled the number of frames of animation for the characters; we more than doubled the resolution of the landscape; the level design is twice as good; and with our support for B3D, Creative Labs' EAX, and Aureal Semiconductor's A3D, we more than doubled our support base for graphics and sound hardware. Based on user feedback, we added ambient life, fire, indoor levels, and more polygonal structures. The only thing we didn't manage to double was the number of types of units, and that's because we ran out of time.

MB: The original idea for the game was to have a whole bunch of guys on the screen at once all fighting in a huge battle. The movie *Braveheart* was the inspiration for depicting this grand, bloody battle. The end product came pretty close to the original concept, though we quickly found out how difficult it is to command more than about 25 guys in real time when you're dealing with elements like formations and facing. Usually you command 15-20 guys per level instead of 50 to 70 guys that we envisioned very early on in *Myth I* development.

NG: What games influenced the design of *Myth II*? What games are you currently playing (besides your own, of course)?

JR: We looked at a lot of other RTS games (*StarCraft*, *Total Annihilation*, *Age of Empires*), but we also tried to analyze other RTS sequels (*WarCraft 2*, *C&C Red Alert*) to see what made them successful as sequels. Around

"*Braveheart* was a big inspiration, but we also got a lot of ideas from classical texts such as Sun Tzu's *The Art of War*," says Reger



"In a sadistic way, it was very satisfying to see a lightning-throwing Fetch blast a hawk into a puff of feathers," says Reger



"Originally, we wanted you to play the side of the dark units, but we couldn't figure out how to make it work in the framework of the story," says Reger

here, we've been playing a lot of *Starsiege: Tribes* and *Baldur's Gate*. Before the Christmas break, we used to play the *Carmageddon II* demo every night before driving home. We liked that game so much that despite the demo's lack of multiplayer support, we would launch our apps at the same time, yell "Ready, Set, Go!" and race against one another.

MB: *Myth I* influenced *Myth II*. We didn't want to be like any other games that were currently available. We wanted to go beyond the technologies that RTS games had been using and copying from each other for some time. Games that I am currently playing are *Tribes*, *Thief*, *Baldur's Gate*, and *Half-Life*.

NG: How do you prefer to play *Myth II*: multiplayer or single-player? What are your specific reasons?

JR: Now that I'm done with the single-player game, I usually play multiplayer. To me, the single-player was great because I felt it contained the greatest advancements over *Myth: TFL*, but all the new units and game types keep me coming back for more multiplayer action.

MB: I prefer to play *Myth II* multiplayer. There is no more unpredictable AI than another human being.

NG: What is your favorite moment in the game? (This can be something that happens every game, or a specific instance from one memorable playing session.)

JR: For testing purposes, I added a hack to our selection code during development that allowed the player to attack ambient life, and I left it in for the shipping version of the game. As a programmer, I was so satisfied when I saw that our improved ballistics code was good enough that our archers can lead and hit a bird in flight. In a sadistic way, it was also very satisfying to see a lightning-throwing Fetch blast a hawk into a puff of feathers, like a giant bug-zapper.

MB: I really like the animated models that we created for *Myth II: Soulblighter*. The exploding bridge, the collapsing wall, the keep's drawbridge, the exploding house, and the elemental hand that the deceiver gets trapped in. They added a lot of dynamics to the game compared to *Myth: TFL*.



"I felt [the single-player] contained the greatest advancements over *Myth: TFL*, but the new units and game types keep me coming back," says Reger

NG: In regards to the story, what were your inspirations (apart from the original) and which game, book, etc., most profoundly influenced it?

JR: *Braveheart* was a big inspiration, but we also got a lot of ideas from classical texts such as Sun Tzu's *The Art of War*, Thucydides' history of the Peloponnesian War, Polybius' accounts of the Punic Wars, the Song of Roland, and the epic of Gilgamesh. We wanted to work a lot of myth into the game.

MB: The movie *Braveheart* influenced the game the most.

NG: What ideas for the game ended up on the cutting-room floor?

JR: Originally, we wanted you to play the side of the dark units, but we just couldn't figure out how to make it work within the framework of the story. We also had a bunch of other units planned: a shapeshifting monster, and moving catapults. Most of those were axed because we were so pressed for time.

MB: Various things like a changeling-type character, mounted units, burning trees and bushes...

NG: What was the toughest obstacle (i.e., AI programming, making environments more interactive, the look of the characters, etc.) for the development team in creating the game?

JR: Just getting the content finished! We'd planned for this to be a one-year project, which is really aggressive for a sequel, so we could stay ahead of the competition. Personally, it was a challenge to implement all our major technical features early on so our artists and level designers could work with a fairly stable technology base. The challenge for them was producing more artwork and better levels than last year's strategy game of the year, and doing it all in half the time.

MB: The toughest obstacle was the huge increase in content that had to be produced in half the time we had to create *Myth: The Fallen Lords*.

NG: What other games/titles have you worked on in the past? (This can be answered for other team members as well.)

JR: *Myth: The Fallen Lords*, *Super Marathon* (for Bandai's Pippin), *Marathon Infinity*, *AmoebArena* (published by Casady & Greene, not a Bungie product).

MB: *Myth: The Fallen Lords*, *Marathon Infinity* (some of my artwork was used), *Marathon 2: Durandal*.



"I [placed] a windmill on a level and [showed] it to my girlfriend, who asked, 'So can guys get killed by the windmill blades?' 'No...' 'Well, then what good is it?'" says Reger, who says such touches add to the ambience

RAINBOW SIX

SYSTEM: PC

PUBLISHER/DEVELOPER: RED STORM ENTERTAINMENT

INTERVIEWED: DAVE WEINSTEIN, NETWORKING; BRIAN UPTON, LEAD ENGINEER AND RED STORM'S VP ENGINEERING; STEVE COTTON, ARTIST/MODELER

Next Generation: What are your strategies for playing through *Rainbow Six*? Do you employ different strategies during different parts of the game? What are they?

Dave Weinstein: I tend to set up the plans with two or three active teams and one or two floaters. The active teams have detailed plans (complete with synchronizing go-codes). Generally, I let the teams work completely AI-driven, and they are usually tasked with doing things like defusing bombs. I take the floaters and move around, sniping out terrorists and evaluating the situation before hitting the go-code to authorize the next step in the operation.



BRIAN UPTON, LEAD ENGINEER



"Missions 12 and 13 are difficult because you have to completely 'switch gears' mentally from a combat mode to a covert mode," says Upton

NG: Are there any missions within the game that you found to be particularly challenging? What's your strategy for getting past them?

Brian Upton: Missions 12 and 13 are difficult because you have to completely "switch gears" mentally from a combat mode to a covert mode. I use the heartbeat sensor more than my weapons in these levels.

NG: Are you the best at your game?

Steve Cotton: Well, since I'm the only one answering this question, then, yes. At least that's what they all tell me.

NG: Has anyone on the team been surprised by tactics



"We haven't seen any new player strategies, but we have been impressed by the variety of weapons mods created," says Upton



or strategies that gamers have used during *Rainbow Six*?

BU: We haven't seen any new player strategies, but we have been impressed by the number and variety of weapons mods they've created.

NG: What's your proudest achievement in *Rainbow Six*?

SC: Embassy, Elite, with a pistol, all terrorists dead in under a minute. (I don't know how much under a minute because at the time this was achieved, the game would bump back to the main menu without giving the time).



NG: Are there any cheats, tricks, codes, or debug insights in the game that were added for personal reasons (inside jokes, etc.). What are they, and how do they relate to the team?

BU: There weren't any put in for particularly personal reasons, just a couple that we thought were pretty funny. There's one in single-player that we refer to as our "PaRappa" mode, in which all of the characters in the game (including terrorists) can be turned into 2D images. Hit "enter" to bring up the chat window, type in "turnpunchkick" and hit "enter" again. We like it.



"There's [a cheat] in single-player that we refer to as 'PaRappa' mode, in which all characters can be turned into 2D images," says Upton

NG: In the course of creating the game, were there any programming artifacts left in the game?

SC: One entire face is missing in Mission 12, the Skyscraper. It's outside on the terrace (a place people rarely go). It was deleted by accident in the final week of production and managed to slip through the QA cracks. It didn't affect the single-player game at all but offers a cheap multiplayer thrill when a player realizes they can shoot the other team through the roof. (It has since been fixed in the patch.)

NG: Are there any games that the team played that influenced the design of *Rainbow Six*? How about inspirations?

BU: There really weren't any other games out there that influenced our design. *Goldeneye* for N64 was an inspiration, to be sure. Because this was a new genre, we really wanted to capture the mood of movies like *Mission: Impossible* or *The Dirty Dozen* — a team of skilled specialists pulling off operations with clockwork-like precision.

NG: Does anyone on the team have a particularly memorable gaming moment that came about in the playing *Rainbow Six*?

DW: I was doing some testing in the Embassy (the first mission of the game). At the time, this may have been the only mission that was fully populated. As I was looking around, I saw some movement in the fire escape. I fired off a three-round burst. I heard a shout of pain, saw a spout of blood, and then the hollow sound of the body hitting the metal grating. At that point, I knew we had it right.

SC: When you find a guy around a corner with the heartbeat sensor, lob a grenade just far enough so he sees it coming around the corner. Then he'll bolt out and see you staring at him with just enough time to ponder his own existence before having his legs blown out from under him! Very rewarding.

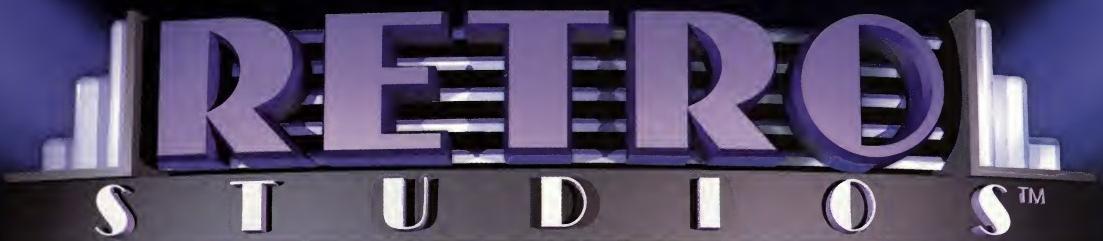
NG: You must have had a lot of ideas for the game that weren't able to make it in. Can you share some examples?

DW: Multiplayer cooperative planning mode.

SC: Sniper rifle, observation mode.



"When you find a guy around a corner with the heartbeat sensor, lob a grenade just far enough so he sees it coming around the corner," says Cotton



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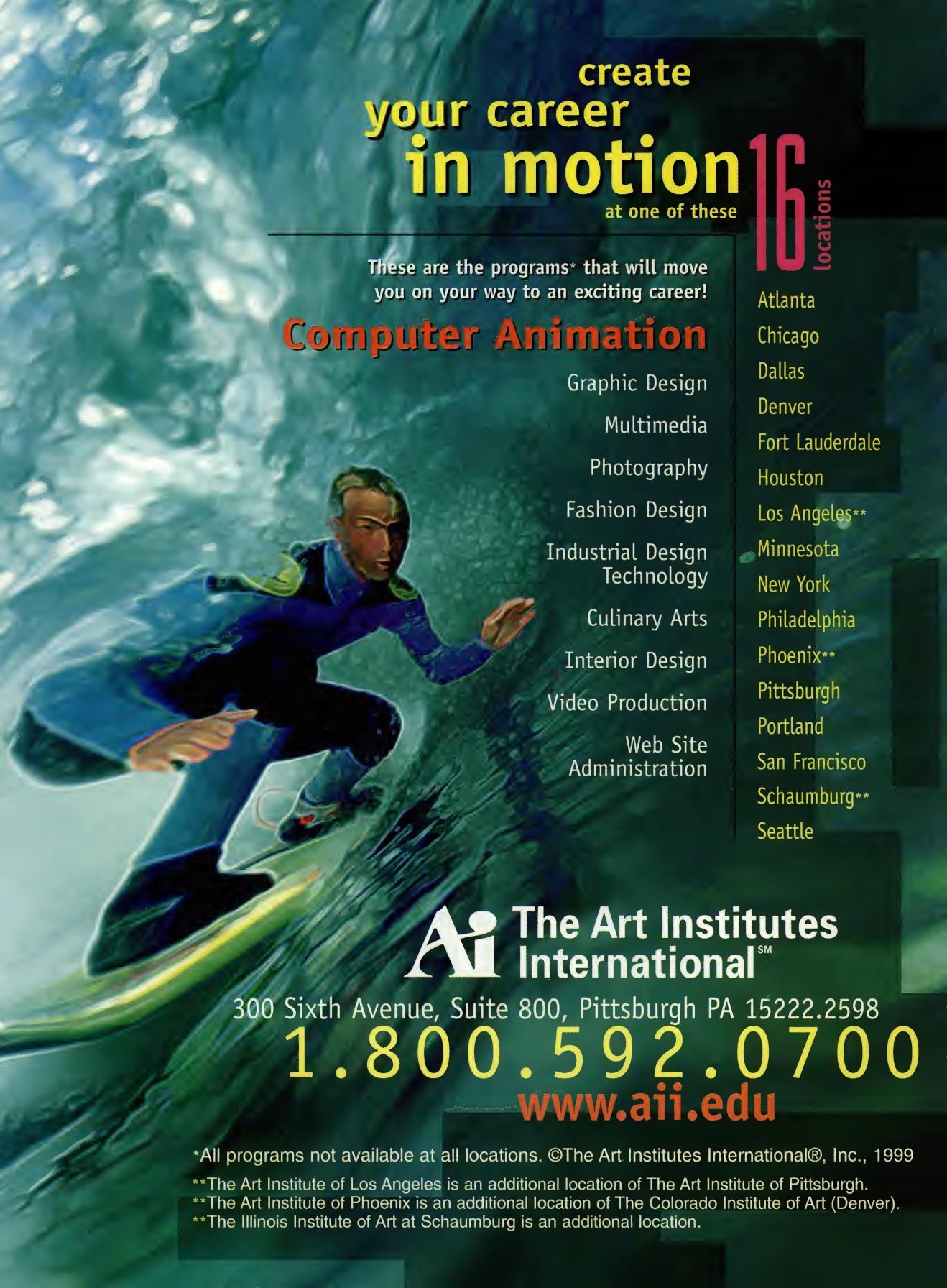
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WHAT EVER HAPPENED TO?

SPY'S DEMISE

PENGUIN SOFTWARE

This early arcade puzzler featured surprisingly addictive gameplay as you controlled a spy who moved back and forth between elevators. The game also featured a code that appeared between levels. Players who broke the code could compete to win a cash prize from the publisher.



QUESTION

What bizarre Electronic Arts title featured a main enemy whose name referred to the Occupational Safety and Health Administration? Hint: It was available for Apple II, as well as several other platforms.

Next Generation, a link to the past

System Shock

As part of the explosive scene that grew up around the Homebrew Computer Club in the late 1970s, it was only natural that Steve Wozniak would build his own computer — but it took his marketing-oriented friend, Steve Jobs, to convince him to sell it. While the D.I.Y. \$666.66 Apple I kit sold no better or worse than any of the other computer kits available at the time, Wozniak's elegantly designed, powerful (and pre-built) Apple II (which owes many of its strongest features, such as high-res graphics and sound, to Wozniak's desire to



Courtesy of Apple Computer, Inc.

create a computer

powerful enough to run the game he did for *Atari, Breakout*) took off like no other high-tech product before or since. Wozniak and Jobs were instant millionaires, and hundreds of thousands of homes, schools, and businesses around the country suddenly had a computer on which games could be played — and created. A huge game scene developed, launching such stars as Bill Budge, Eric Hammond, Nasir Gabelli, John Romero, and too many others to name. While the Apple II's day passed, its powerful legacy lives on in the legions of game players — and designers — it created.

Retroview

by Steven Kent, author of a forthcoming book on the history of videogames

THE BOYS FROM THE DARKSIDE — PART 3

Atari reported losses of \$425 million in the second quarter of 1984. The Tramiels purchased the company in July. On September 13, Jack Tramiel held a closed-door meeting in which he told a group of venture capitalists that he would take Atari's earnings out of the red and raise sales over the billion-dollar mark within one year.

By 1988, the company's earnings had topped \$450 million. When Warner Communications owned Atari, it was a videogame company that also manufactured computers. Once the Tramiels took over, that identity was reversed, and Atari announced plans for two new computer lines. One computer in particular — the ST-line — fascinated Wall Street.

The Atari ST computer was to be the poor man's Macintosh. It had a mouse and a graphic interface, but Jack Tramiel claimed it would sell for a fraction of the

price of a Macintosh. Analysts quickly dubbed it the "Jackintosh." Although several people in the computer industry dismissed it as a joke, Wall Street did not; it had learned to take Tramiel seriously.

Wall Street was correct. When Tramiel left Commodore, he had taken with him such war-tested Commodore veterans as Tony Tokai, the manufacturing wizard who had performed miracles with Commodore 64 and Vic-20 production, and John Feagans, an engineer with extensive design experience. On the surface, ST technology was nearly identical to Macintosh and Commodore Amiga technology but retailed for far less. (Ironically, the Amiga was developed by Jay Miner, the engineer who also spearheaded the development of the Atari 2600). While the ST sold moderately well in the United States, it was much more successful in Europe. The Tramiels always had an appreciation for the European marketplace.

THE FAMILY BUSINESS

While Jack paid attention to how the company was run, he turned the day-to-day operations over to his sons: Sam, Leonard, and Gary.

Sam, his oldest son, took the title of president and CEO. Many people accuse Sam Tramiel of sharing his father's ruthlessness, but several people who worked with him say that he was the most level-headed of the Tramiels.

Sam was a lot more straightforward than the other brothers. When he made a decision, you felt like there was a lot more consideration to other people's ideas and thoughts. Ultimately, the decisions had a lot of Jack behind them because Sam made decisions based on what he thought his father would do and not necessarily what he felt he should do.

Don Thomas

Former portfolio marketing manager, Atari



Star Wars: Game I

While thousands of people line up this month for the latest installment of the *Star Wars* anthology, **Next Generation** recalls a more civilized age. It was 1982, and Parker Brothers, the board-game giant, had become the first company to produce licensed *Star Wars* home-computer and console games. But while its first effort, *The Empire Strikes Back*, was a critical success on Atari 2600, its later products were far from impressive. *Jedi Arena*, the quirky two-player paddle game, suffered many consumer returns due in part to the fact that many users presumed that the game was defective when the actual problem was that they had tried to play the game with a joystick. There were numerous other games promised by the toy company

in both catalogs and magazines, including *Ewok Adventure* and *Return of the Jedi: Escape from the Sarlac Pit*, but neither became a reality. In all, Parker Brothers released four games based on the über-franchise, including *Death Star Battle* and *Star Wars Arcade*, before deciding to downsize their videogame division in 1983.



The very first *Star Wars* games came from Parker Brothers for Atari 2600. To say they varied in quality would be an understatement, and many promised titles simply failed to appear

Gary, the youngest, was the financial brain. Warner first contacted Jack through Gary, who worked at Merrill Lynch at the time. He was the least traditional of the Tramiels and owned a business that dealt in exotic cars. A well-known tightwad, Gary required his executives to submit summaries before he would approve expenses. Once, when Gary refused a request to pay for the expense of sending sales tools to a salesman for a presentation to key retailers, Atari Entertainment/Electronics Division President Mike Katz ended up paying the Federal Express bill himself.

Leonard, who had a Ph.D. in astronomy, was in charge of engineering. The most educated family member — and, according to several sources, the toughest Tramiel to work with — Leonard was known to use profanity when he lost his temper with employees.

THE END OF ATARI

Atari had its most profitable year

under the Tramiel regime in 1988, but its days in the computer industry were coming to a close. IBM and Apple had established an unshakable hold on the computer business, forcing Atari to look for new options. Over the next several years, the Atari product line moved in several directions. In 1989, the company unveiled a handheld game system called Lynx, which it picked up from Epyx. It also unveiled Portfolio, one of the early掌上型 computers. Unfortunately, the noose was already closing around Atari. Although Lynx was launched within months of the release of Game Boy, it did not fare well in retail. Portfolio never caught on. The company's last attempt was the ill-fated Jaguar, a game console with a much-disputed 64-bit processor that died shortly after Sega and Sony released their 32-bit systems.

In 1996, a nearly tragic occurrence caused the Tramiels to re-evaluate Atari.

Sam had just finished riding a bicycle. He got off the bike, felt somewhat faint, felt a pain in his chest, drove himself to the Stanford Medical Center, and there he was informed that he had a mild heart attack.

Jack came back in [to Atari while Sam was recovering]. Jack knew how bad it was. It wasn't that Jack didn't know; Jack knew. Jack knew all the numbers, all the time.

Bernie Stolar

President and COO,
Sega of America

Jack Tramiel decided to pull the plug on Atari. He sold it to JTS, a disk-drive manufacturer, later that year. Two years later, JTS sold the intellectual rights of the Atari library to Hasbro.

And what of the Tramiels? At one point, Gary Tramiel had major holdings in THQ. (Unfortunately, I have been unable to confirm if this is still the case.) Other than that, they seem to have no ties to the game industry. **NG**

ANSWER

Hard Hat Mack.



Letters

Correspondents' correspondence

I was really looking forward to your interview with John Carmack in **NG 51**, but when I opened it up to that section, I found that it was all in black, red, and white. I don't know if you realize this, but the tiny, anemic, red type that you used for your questions to John was rendered essentially illegible against the black background. Was that some kind of cruel joke? Or do you feel that your words mean nothing next to his?

Jeremy M. Peyer
jeremy@omnidelta.com

The interview was one of those designs that looked great on the screen but failed miserably on the printed page. Our printer should have caught the error, but somehow, it went through. When you try cutting-edge design, you run the risk of not quite pulling things off. We'll be putting the entire text of the interview — in a legible form — on **NG Online**.

As a lesson in the exact meaning of "cutting edge," the designers and printers in question have had their hands chopped off just below the elbow and won't be making that mistake again.

Why is **NG** so violent? Editors keep getting killed whenever they make a mistake, and this has been going on too much lately.

Jo Eric Mercado
nokujin@juno.com

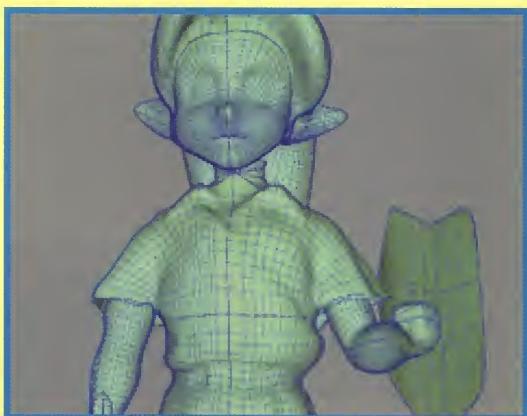
Oh, well, we apologize then. The editor in charge of maiming and killing the other editors has been torn apart by wild horses and the pieces were fed to rabid dogs. He seems to have learned his lesson, and this will not happen again.

OK, we've heard from John Carmack, Sony, and other various print and online sources *all* about NURBS technology. Well, we've heard the word NURBS, anyway.

What the hell is a NURB? Why does Sony think it's the next big thing? Why does John Carmack think it's not? In layman-speak, please!

David Ballard
cascus@bellsouth.net

OK, NURBS (non-uniform rational b-spline), like a Bezier mesh (which is what Carmack is using for *Quake III*, and what Sony is touting for PlayStation 2), is a way of defining



NURBS define objects — like this model of Link done for **NG 48** by Parafoma — as curves in space rather than as a polygonal surface

a curved surface in space (a Bezier curve just defines a 2D curve, but you can easily extend the principle into the third dimension). NURBS and Bezier curves work pretty differently, but the basic idea is this: You have a starting point and an ending point to a curve, as well as a couple of points that define the shape of the curve. That's it. You can define curved surfaces (such as organic humanoid shapes) much more easily, and with less memory, than you can with polygons, where you create a simulation of the curved surface with a bunch of polygons. The downside is that you need a lot of computation power to do curved surfaces in realtime. Also, as Carmack pointed out, curved surfaces, particularly NURBS, aren't necessarily "all that." While they do humans better, and look great, they can be a real hassle to work with.

"a—" but "b—ds," in the same paragraph. Does **NG** really need to resort to this? Would it have taken a huge amount of effort to just say "f—" when quoting a game's dialogue? I always thought an unwarranted use of profanity only belonged in the juvenile gaming magazines aimed at younger teens. In short, **NG** is good without the expletives, so if it ain't broke why try to fix it?

Anthony James Larrea
AJLarrea@aol.com

One last time, and for the record: Although the editors of **Next Generation** themselves do not, as a rule, use profanity — at least not in print — we certainly will not shy away from printing it if it's spoken by an interviewee (as in the night-infamous conversation with Kelly Flock in **NG 45**), or when quoting an ad campaign (as in the intro page in **NG 51**), or when noting how its use in a game like *Kingpin* is a deliberate element of that game's design and part of its gritty, realistic urban atmosphere. Simply put, such use is far from "unwarranted"; it's important in understanding what these people, campaigns, and games are like.



So, the design and layout of the Carmack interview in **NG 51** wasn't as legible as it could have been. At least you can read it on **NG Online**

I am a relatively new subscriber to **Next Generation** magazine. I have found it to be an extremely organized and well done magazine, but something caught me totally off guard in my new copy of **NG 51**. You used the "f" word twice in your preview of *Kingpin*, and on the introductory page used not only

What happened to **NG 51** on page 78-84? They were repeated! Did you get some double prints? What was supposed to go in its place? Oh well. You guys do a good job every issue anyway. Hell, a error like that is called Normal to *GamePro*.

XModemsX@aol.com

That little mix-up was purely the fault of the printer, although only a small percentage of copies that went out included the repeating pages.

I just got my first four issues of **NG**, and let me tell you, while I am sad to see **Game Buyer** go after they first started the codes, you guys kick @\$. However, to my horror, someone was stupid enough to insult my favorite part of the mag (Derek Woo, **NG 50**).

"Advanced Strategies" is not codes and tips; it lets the makers of the game express their point of view. I am glad that you have added the extra eight pages for the people like me who are slow at videogames — and seriously folks, do any other magazines this guy mentioned present themselves as well as the folks at **NG**? No, they don't.

Drew Best

MPFC4ever@aol.com

Thanks for the pat on the back.

I just finished reading your March 1999 issue. When I happened upon the survey on page 86, I thought I might actually fill this one out and submit it. I usually don't like to fill out questionnaires — especially ones with questions like "How much have you spent on games?" — but I made an exception in this case. If I have an opportunity to maintain what I like in your magazine, I want to take it. But why didn't you offer an online equivalent? I refuse to rip a page out of one of my magazines. Fortunately I have a scanner, so I scanned and printed it.

Adam

fretch@erols.com



The characters in Xatrix's gritty urban shooter *Kingpin* swear like sailors — you have been warned

Thanks for taking the time to fill out the survey. The surveys are used by our marketing department, and the info is shared with us editors. We're always interested in what parts of the magazine people like or dislike, and it plays a big part in our decisions when we are working to make the magazine better. We'll soon have other marketing surveys available online.

Here's the thing — during the train ride home tonight, I met this guy who saw me reading the mag, and we struck up a conversation. He told me that he's got Dreamcast VFTB3, *Sonic Adventure*, and *Sega Rally 2*. If it's supposed to be delayed, why does this guy already own it?

Conrad (Conartist)
cprophet@pratt.edu

In **NG 51**, you stated that the Genesis originally shipped with "a simple four-button pad." Hello? The Sega Genesis originally shipped with two three-button pads. However, I forgive you.

CptRiker@aol.com

We were just about to dip the offending editor's face in boiling oil when he reminded us that the Genesis control pad had three action buttons and a start button, for a total of four. Anyway, now we've got this big vat of boiling oil just sitting here, going to waste, and it appears that you're the one in error, CptRiker....

I don't get it. I just received **NG 51** and read that *Sega Rally 2* is being delayed until June.

Here's the deal: Sega delayed *Sega Rally 2*, but then, though a miracle of development (120-hour work weeks were common), managed to ship it earlier.

toom@hooked.net

Please give my compliments to the person that created the cover for **NG 52**. Where else can I see this person's work?

fcarberr@optonline.net

Alright, you two fight it out. We'll agree with the winner. **NC**

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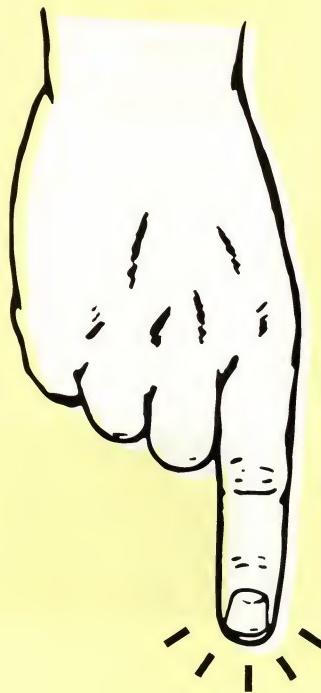
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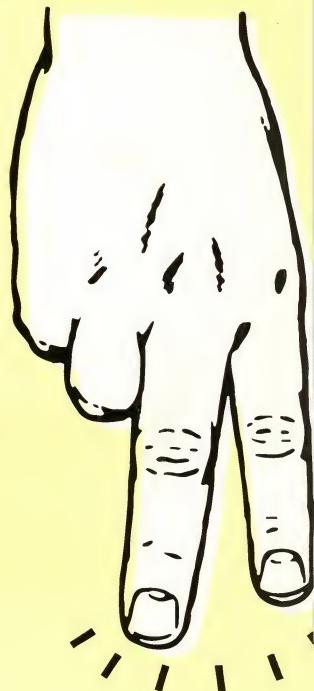
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fig. 1



Fastball

fig. 2



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Curve

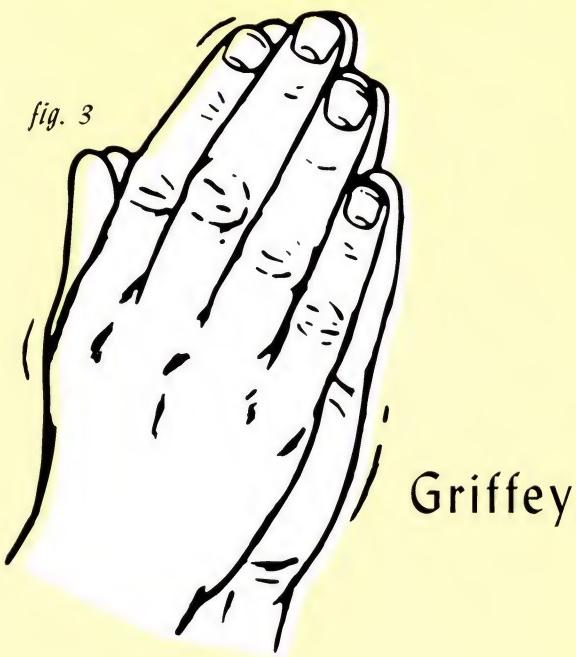


fig. a) WHAM!



fig. b) CRACK!



fig. c) SLIDE!



fig. d) SLAM!



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